*Pain Practice*

SPECIAL ISSUE ALGOS 2025 Abstracts in Pain Practice Supplement (TBC)

## Abstract

### ORAL PRESENTATIONS

#### OP1 | SILENT MODULATORS: UNVEILING THE ENDOCANNABINOID SYSTEM'S ROLE IN HUMAN PAIN PROCESSING

Melissi E., Ntanasis A., Sitos E., Steliou F.
*Anesthesiology Department, General Hospital of Ioannina "G. Hatzikosta", Ioannina, Greece*

**Background:** The endocannabinoid system (ECS)—comprising endogenous ligands, receptors, and metabolic enzymes—has garnered increasing interest as a key player in the modulation of pain. While the therapeutic use of cannabinoids remains controversial, understanding the role of the ECS itself in human pain physiology may unlock novel, endogenous pathways for safer and more effective analgesia.
**Methods:** This narrative review synthesizes findings from clinical and translational studies published between 2015 and 2024, identified through comprehensive searches in PubMed, Scopus, and the Cochrane Library. Emphasis was placed on human studies exploring the role of key ECS components—anandamide (AEA), 2-arachidonoylglycerol (2-AG), cannabinoid receptors CB1 and CB2, and enzymes such as FAAH and MAGL—in various pain contexts, including acute, chronic, inflammatory, and neuropathic pain.
**Results:** Evidence indicates that the ECS actively participates in pain modulation through both central and peripheral mechanisms. Altered levels of AEA and 2-AG have been observed in patients with chronic pain, suggesting an adaptive response to nociceptive stress. CB1 receptors primarily modulate central nociceptive pathways, while CB2 receptors are involved in peripheral immune and inflammatory responses. Pharmacological modulation of the ECS—especially through FAAH inhibition—has shown analgesic potential in early-phase trials without the psychoactive effects of phytocannabinoids. Nonetheless, significant variability in study design, biomarker measurement, and patient populations limits firm conclusions.
**Conclusions:** The ECS represents a promising, underexplored target in the landscape of pain management. While preclinical insights have laid the groundwork, further high-quality clinical research is essential to translate ECS modulation into practical, individualized pain therapies. This review highlights the need for standardized methodologies and interdisciplinary collaboration to fully harness the body's own pain-relieving system.

#### REFERENCES

1. Woodhams, S. G., Chapman, V., Finn, D. P., Hohmann, A. G., & Neugebauer, V. (2017). The cannabinoid system and pain. *Neuropharmacology*, 124, 105–120. https://doi.org/10.1016/j.neuropharm.2017.06.015.
2. Guindon, J., & Hohmann, A. G. (2020). The endocannabinoid system and pain. *Handbook of Experimental Pharmacology*, 258, 219–243. https://doi.org/10.1007/164_2019_296.

#### OP2 | THE MICROBIAL CODE OF PAIN: EXPLORING GUT-BRAIN INTERACTIONS IN ANALGESIA

Melissi E., Ntanasis A., Sitos E., Steliou F.
*Anesthesiology Department, General Hospital of Ioannina "G. Hatzikosta", Ioannina, Greece*

**Background:** Emerging research suggests that the human gut microbiome—a complex ecosystem of microorganisms—plays a pivotal role in the bidirectional communication between the gastrointestinal tract and the central nervous system, commonly referred to as the gut-brain axis. This interplay extends into nociceptive processing and chronic pain modulation, involving immune, endocrine, and neural pathways. Understanding how microbial alterations influence chronic pain may open new frontiers in personalized pain management strategies.
**Methods:** This narrative review synthesizes recent findings from preclinical and clinical studies published over the last decade, focusing on the interaction between gut microbiota and chronic pain conditions such as fibromyalgia, irritable bowel syndrome, neuropathic pain, and chronic low back pain. Key mechanisms—including microglial activation, short-chain fatty acid production, neuroinflammation, and vagal nerve signaling—were examined. Literature was sourced from PubMed, Scopus, and Cochrane databases using relevant keywords (e.g., "gut microbiome," "chronic pain," "gut-brain axis," "dysbiosis," "pain modulation").
**Results:** Multiple studies demonstrate altered microbial diversity and composition (dysbiosis) in chronic pain populations, with consistent findings of reduced beneficial bacteria (e.g., *Bifidobacterium*, *Faecalibacterium*) and increased

pro-inflammatory taxa. Animal models support a causative link between dysbiosis and hyperalgesia. Probiotic, prebiotic, and fecal microbiota transplantation interventions have shown preliminary promise in modulating pain thresholds and inflammatory markers, though human trials remain limited and heterogeneous.

**Conclusions:** The gut microbiome emerges as a novel and modifiable player in chronic pain pathophysiology. While causality remains to be firmly established in humans, ongoing translational research highlights its potential as a therapeutic target. Incorporating microbiome-based diagnostics and interventions may reshape future pain management paradigms, particularly within the framework of precision medicine.

## REFERENCES


1. Guo R, Chen LH, Xing C, Liu T. Pain regulation by gut microbiota: molecular mechanisms and therapeutic potential. *Br J Anaesth*. 2019;123(5):637–654. https://doi.org/10.1016/j.bja.2019.07.026.

2. Corriero A, Giglio M, Inchingolo F, Moschetta A, Varrassi G, Puntillo F. Gut Microbiota Modulation and Its Implications on Neuropathic Pain: A Comprehensive Literature Review. *Pain Ther*. 2024;13(1):33–51. https://doi.org/10.1007/s40122-023-00565-3.


## OP3 | MACHINE LEARNING APPROACHES IN OUD: A FOCUS ON GENETICS INSIGHTS


Zompola A.[1], Asimakopoulos T.[2], Iosiphidou C.[3], Tsouma K.[4], Botou P.[4], Prodromakis P.[4], Kouroukli I.[4]

*[1]National Kapodistrian University of Athens Greece School of Medicine Athens, Greece; [2]Johns Hopkins School of Medicine, Department of Pathology, Division of Neuropathology, Baltimore, USA; [3]General Hospital of Naxos, Naxos, Greece; [4]Anaesthesiology Department and Pain Clinic, Hippokration General Hospital of Athens, Athens, Greece*


**Objectives:** The opioid use disorder (OUD) crisis poses significant health and social challenges worldwide. Genetic factors have been studied to identify individuals at higher risk for opioid misuse, aiming to develop targeted therapeutic options. Machine learning (ML) algorithms, with their proficiency in uncovering complex data patterns, hold promise for healthcare. This review assesses current literature on ML applications in predicting OUD risk through genetic markers, highlighting key findings and identifying potential novel anti-opioid medications.

**Methods:** A literature search was conducted in PubMed and Google Scholar to locate studies published between 2010 and 2024. These studies employed genetic and clinical data in ML classifiers to predict OUD risk.

**Results:** Model performance varied according to genetic variability among participants. Key findings identified potential drug candidates from the DrugBank database that may be repurposed for treatment based on established and novel opioid targets. The HEAL library was developed, which, through the integration of ML algorithms and the systematic simulation of the association of compounds with pharmacological targets, contributed to the prediction of potential drug interactions and the identification of new candidate treatments for pain and opioid dependence. Important genes such as *5-HTR2A*, *ABCB1*, and *GAL* were highlighted for their role in classifying OUD risk.

**Conclusions:** Although promising, OUD's highly polygenic nature—with multiple genetic variants contributing to heritability—calls for broader population studies to enhance understanding of its genetic basis. Further research is also necessary to confirm the efficacy and safety of ML-identified drug candidates. Effective ML tools could enable healthcare providers to make more informed decisions in opioid treatment management.

## OP4 | INCIDENCE OF CHRONIC PAIN IN TRANSGENDER POPULATION AMONG CIS-GENDER POPULATION


Chatzidimitriou I., Faneromenos P., Charatsis Ch., Papageorgiou Eir., Anisoglou S.

*Theageneio Hospital, Thessaloniki, Greece*


**Research Aim:** The aim of this research is to investigate the incidence and characteristics of chronic pain in transgender and gender-diverse (TGD) individuals compared to cisgender individuals. The study seeks to identify the unique biopsychosocial factors—including minority stress, medical marginalization, and trauma—that contribute to increased vulnerability to chronic pain within the TGD population.

Furthermore, it aims to inform inclusive, trauma-informed, and developmentally sensitive healthcare approaches that can improve pain outcomes and overall wellbeing for transgender individuals.

**Method:** This study is based on a narrative literature review of existing research on chronic pain in transgender and gender-diverse (TGD) populations. It synthesizes findings from large-scale studies, clinical reports, and emerging data on pediatric and adult populations, focusing on the intersection of chronic pain with factors such as minority stress, medical marginalization, and adverse childhood experiences. The approach aims to identify knowledge gaps and inform inclusive, trauma-informed models of care.

## OP5 | ARTIFICIAL INTELLIGENCE IN PAIN MEDICINE: APPLICATIONS AND ETHICAL IMPLICATIONS


Baltogianni I.V., Fragkou L., Kapetanakis K., Sakkalis G., Glavas A.

*Anesthesiology Department of General Hospital of Athens "Elpis", Athens, Greece*


Pain remains a complex and subjective experience, especially challenging to assess in non-verbal or cognitively impaired patients. Artificial Intelligence (AI) offers promising tools to enhance the objectivity and precision of pain assessment and management.

**Objectives:** To explore and synthesize recent clinical applications of AI in pain medicine, focusing on detection, prediction, treatment optimization, and ethical considerations.

**Methods:** A targeted literature review was conducted using PubMed, Web of Science, and Google Scholar. Although no time restriction was imposed, the majority of studies were published between 2019 and 2024. Search terms included "AI", "pain recognition", "pain prediction", "machine learning", "EEG", and

"HRV". From ~200 identified studies, we selected 10 representative papers based on clinical relevance and methodological rigor.
**Results:** Facial analysis tools such as PainChek™ Infant demonstrated high diagnostic accuracy (AUC = 0.96) in detecting pain in non-verbal populations, with rapid output (< 3 s). Multimodal AI models integrating EEG, GSR, HRV, EMG, voice, posture, and facial expression achieved classification accuracies > 90%. Predictive models for chronic postsurgical pain (CPSP) using perioperative and psychological data have shown strong clinical utility. Reinforcement learning has enabled real-time analgesic titration in PCA settings. Some commercial systems have obtained regulatory approval (e.g., CE marking), yet real-world clinical integration remains limited. Barriers include insufficient external validation, heterogeneous training datasets, clinician knowledge gaps, and ethical concerns regarding privacy, bias, and transparency.
**Conclusion:** AI is a transformative tool in pain medicine, enabling objective diagnostics and individualized pain control. Bridging the gap between innovation and implementation will require pilot clinical trials, regulatory clarity, and interdisciplinary education. Ethically aligned, transparent deployment is key to responsible adoption.

## OP6 | OPIOID-SPARING EFFECT OF DEXMEDETOMIDINE IN THE OPERATING ROOM: EVIDENCE FROM RANDOMIZED TRIALS

Baltogianni I.V., Sakkalis G., Kapetanakis K., Fragkou L., Glavas A.
*Anesthesiology Department of General Hospital of Athens "Elpis", Athens, Greece*

**Background:** Opioids remain the cornerstone of perioperative analgesia but are associated with adverse effects such as nausea, vomiting, sedation, ileus, and risk of dependency. Dexmedetomidine (DEX), a selective $\alpha_2$-adrenergic agonist with sedative and analgesic properties, is increasingly used in multimodal protocols. We conducted a systematic review and meta-analysis to evaluate the opioid-sparing effect of intravenous dexmedetomidine in adult surgical patients.
**Methods:** A systematic search of PubMed and trial registries identified randomized controlled trials (RCTs) published between 2020 and 2025 evaluating intravenous dexmedetomidine (IV DEX) in adult surgical patients. Inclusion criteria were: (1) intraoperative IV DEX use, (2) comparison with placebo or standard opioid-based regimens, and (3) reported postoperative opioid consumption. Ten RCTs involving a total of approximately 1350 patients were included. Mean differences (MD) in 24-h opioid consumption (converted to morphine equivalents) were pooled using a fixed-effects model.
**Results:** Across diverse procedures—including laparoscopic, orthopedic, thoracic, neurosurgical, bariatric, and cardiac surgeries—IV DEX significantly reduced postoperative opioid consumption by a pooled mean of −7.8 mg morphine equivalents (95% CI: −8.45 to −7.14; SE: 0.33). Additional benefits included lower pain scores, reduced postoperative nausea and vomiting (PONV), shorter time to mobilization, and in select cases, improved sedation quality and reduced ventilator duration. No serious adverse events were reported; mild bradycardia was the most common side effect and was clinically manageable.
**Conclusions:** Intravenous dexmedetomidine provides a robust opioid-sparing effect and enhances postoperative recovery in adult surgical patients. Its favorable safety and efficacy profile support wider implementation in perioperative protocols. Further large-scale trials are warranted to define optimal dosing and evaluate long-term outcomes beyond 24 h.

## OP7 | PERICAPSULAR NERVE GROUP (PENG) BLOCK FOR HIP OSTEOARTHRITIS PAIN: A CASE SERIES OF 20 PATIENTS

Alevrogianni F., Stavropoulou E., Saridaki A.M., Solomou D., Bairaktari A.
*Anaesthesiology Department, General Hospital of Attica "KAT", Athens, Greece*

**Background:** Hip osteoarthritis is a common chronic condition, primarily affecting the elderly, characterized by the presence of chronic pain, joint stiffness, and restricted movement. The PENG block is a recently described ultrasound guided (USG) technique for the blockade of all sensory branches to the hip capsule. Literature suggests that it may offer symptoms relief to patients not eligible for total hip arthroplasty. The aim of our study was to evaluate pain in patients with chronic hip pain following the administration USG PENG block.
**Methods:** The cohort included 20 patients from our Chronic Pain Department – 16 women and 4 men. All patients were classified as ASA III, hip osteoarthritis grade 3–4 according to Kellgren-Lawrence scale and mean baseline VAS score 7.2. They all received a standardized analgesic scheme of 3 g Paracetamol daily and 50 mg Tramadol SR every 12 h. All underwent a USG PENG block, administering a mixture 13 mL of Ropivacaine 0.2 and dexamethasone 8 mg. Patients were reassessed after 4 weeks.
**Results:** Mean age of participants was 82.4 ± 5.7 years (range 78–89). After conservative treatment, mean VAS score remained 6.8. PENG block demonstrated reduction in mean VAS scores by 40% ($p < 0.001$), accompanied by a 35% increase in PHQ-9 scores ($p < 0.001$). No complications were reported during the follow-up period. The majority of participants (80%) expressed satisfaction with the procedure.
**Conclusion:** The USG PENG block demonstrated significant improvement in pain without major complications after 4 weeks of follow-up in patients with chronic hip pain. More studies need to be conducted to prove its long term efficacy.

## OP8 | IMPACT OF CHRONIC PAIN ON THE DAILY FUNCTIONING OF PARAPLEGIC INDIVIDUALS AFTER SPINAL CORD INJURY: A STUDY IN THE GREEK POPULATION

Nianiarou M., Alevrogianni F., Mavrommati M., Tzima C., Stavropoulou E.
*General Hospital of Attica "KAT", Athens, Greece*

**Introduction:** Spinal cord injury (SCI) affects an estimated 20.6 million people worldwide. Internationally, high prevalence of chronic pain in persons with SCI has been noted with many categories diagnosed (neuropathic, nociceptic, visceral etc.).

The goal of this study is to record paraplegic people residing in Greece, regarding the presence of chronic pain, its characteristics, and its interference with aspects of daily life.
**Methods:** This study included 52 paraplegic people who filled our eligibility criteria. They were asked to fill in a questionnaire that included questions about demographics, information about their SCI, the DN4 questionnaire to screen for neuropathic pain, and the Brief Pain Inventory-Short form questionnaire to evaluate how the pain affects their daily activities.
**Results:** Out of the total participant number ($N = 52$), 28 people (53.8%) had the criteria of chronic pain related to their SCI. The intensity of their pain was evaluated with the NRS pain scale as moderate (4175/10). The therapeutic intervention they followed to treat their pain relieved their pain on an average of 66%. In the assessment of daily activities with the BPI, the areas more affected by chronic pain were sleep and general activity, and the least affected were the relation with other people and normal work. Out of the 28 people with pain, the majority of the participants were reported to have neuropathic or musculoskeletal pain.
**Conclusion:** In agreement with existing literature from other countries, this study notes increased prevalence of chronic pain in people with SCI who reside in Greece. This pain affects their daily activities, when measured with the BPI. The results of this study aim to add to the existing worldwide research regarding chronic pain in people living with SCI and to highlight this matter to medical professionals in order to effectively target this matter.

## OP9 | THE USE OF NON INVASIVE REPEATITIVE TRANSCRANIAL MAGNETIC STIMULATION (rTMS) IN THE MANAGEMENT OF NEUROPATHIC PAIN

Peios D.[1], Ramnalis A.[1], Makrygiannis V.[1], Voutsinos A.[1], Kyriakidou A.[1], Tsaroucha A.[2]
*[1]Novelbrain Therapy Center, Thessaloniki Greece; [2]1st Department of Anaesthesiology and Pain, National and Kapodistrian University of Athens, Aretaieio Hospital, Athens, Greece*

**Objectives:** Repetitive Transcranial Magnetic Stimulation (rTMS) is a non-invasive neuromodulation technique primarily used in drug-resistant depression. Since its FDA approval for chronic pain management in 2013, its use has expanded, especially in conditions such as fibromyalgia and neuropathic pain.
**Methods:** We applied a high-frequency (20 Hz) rTMS protocol in nine patients (7 males, 2 females; aged 21–74) with chronic neuropathic pain syndromes, including post-stroke pain, trigeminal neuralgia, ulnar nerve neuropathy, and chronic spinal pain. All patients underwent psychiatric evaluation before treatment. The primary stimulation targets were the Primary Motor Cortex (M1) and the Dorsolateral Prefrontal Cortex (DLPFC). Patients received 13 to 29 sessions. Two patients discontinued therapy before completing 10 sessions, which we considered the minimum threshold for evaluating treatment response.
**Results:** Seven patients completed the treatment cycle, showing a 30% to 70% reduction in pain based on Visual Analogue Scale (VAS) scores, along with improvements in quality of life. No adverse effects were reported. Notably, five out of seven patients expressed willingness to repeat the treatment in the future.
**Conclusions:** rTMS appears to be a safe, well-tolerated, and promising adjunct therapy for chronic neuropathic pain. Its non-invasive nature, in combination with conventional therapies such as medication and physiotherapy, is appreciated by patients. Despite the small sample size, our data suggest significant pain relief in over 50% of participants. Further randomized controlled trials are necessary to optimize stimulation parameters and confirm efficacy across larger populations.

## OP10 | PAIN MANAGEMENT OF A CHILD SUFFERING FROM AUTOSOMAL-DOMINANT POLYCYSTIC KIDNEY DISEASE (ADPKD): A MULTIDISCIPLINARY APPROACH

Koutoulaki E., Dimitropoulou E., Dionysopoulou C., Mpatsikoura I., Garini E.
*Children's Hospital "Agia Sofia", Department of Anesthesiology, Athens, Greece*

**Background:** Pain is a common complaint in patients with autosomal-dominant polycystic kidney disease (ADPKD), afflicting about 60% of patients with an established diagnosis and a systematic approach is needed to differentiate the etiology of the pain and define an approach to management.[1] Behavioural modification approaches can help patients adapt to chronic pain to not interfere with their lifestyle. ADPKD patients may suffer complications such as infected cysts, cyst rupture/haemorrhage, and nephrolithiasis that often cause crippling acute renal pain.[2]
**Methods:** On March 2025 after reference of pediatric nephrologist a female patient 12 years old, BMI > 25 with ADPKD came to our clinic with persistent renal pain resistant to paracetamol and ibuprofen. Pain had begun a year ago after an episode of glomerulonephritis. During that time, she gained 20 kilos and began propranolol. MRI scans and ultrasound showed no association with renal pain and after clinical examination we concluded that it was of musculoskeletal origin. Her father had died at a young age due to ADPKD. During the consultation, she was shy, it was noted that she suffered social isolation at school, and we referred to the psychiatrist of the Hospital for consultation. We recommended physio, exercise, diet, acupuncture and patch lidocaine.
**Results:** After the completion of 12 acupuncture sessions, gradually pain decreased, and she returned to her daily activities and began physio. She used patch lidocaine only for the first 2 weeks. The psychiatrist also prescribed duloxetine and gave her consultations to control her social phobia.
**Conclusion:** Pain in patients with polycystic kidney disease can be challenging to manage and clinical examination should be thorough. Patients should be dealt with in a multidisciplinary approach to improve the quality of life.

### REFERENCES

1. Tellman, Matthew W et al. "Management of pain in autosomal dominant polycystic kidney disease and anatomy of renal innervation." *The Journal of Urology* vol. 1935 (2015): 1470–8. https://doi.org/10.1016/j.juro.2014.10.124.
2. Zahid H. Bajwa et al. "Pain management in polycystic kidney disease", *Kidney International*, Vol. 60 (2001), pp. 1631–1644.

## OP11 | PHYSICIANS' BELIEFS AND PRACTICES AROUND OPIOID USE

Faneromenos P.[1], Papageorgiou Eir.[1], Charatsis Chr[1], Chatzidimitriou I.[1], Anisoglou S.[1], Siafaka I.[2]
*[1]Theagenio Hospital, Thessaloniki, Greece; [2]University of Athens, Athens, Greece*

Opioids have accompanied human history since the first aging civilizations.

Over the centuries and as we approached the industrial age their use spread and their clinical application was widespread. This took on the dimensions of an opioid crisis from the 1990s with use going beyond clinical limits but even within them side effects are beginning to be systematically recorded.

In this crisis, the role of physicians is crucial. How exactly they will determine the outcome of an issue that is interwoven throughout time and has taken on such a dimension, depends on their beliefs about opioids and ultimately their practice regarding their use. Beliefs and practices that can overcome dead ends of the past, but from which they can create additional problems and barriers in such a complex issue where the modern medical community is called upon to solve.

Education, guidelines, social biases, knowledge and university studies are the main pillars that compose the beliefs of physicians around opioids and lead to their respective practice in areas such as chronic cancer and non-cancer pain, neuropathic pain, but also postoperative. First line for a wide range of issues continue to be the primary health service centers that need special attention.

Opioid phobia has replaced abuse, and guidelines have replaced empirical knowledge and abuse. The collection of data worldwide shows us that North America, led by the United States, is giving the pulse for the new era of opioid use, far from the distortions of the past, which is why studies from that region have played a primary role in drawing conclusions.

The solution to such a complex issue needs to be multi-layered, grasping the thread of all the distortions that lead to misuse or non-use of opioids and giving perspective through coordinated efforts that start from the official institutions of a country and end up at the home of every citizen who needs these drugs.

## OP12 | PREDICTING OPIOD RESPONSE IN ONCOLOGY PATIENTS WITH CHRONIC PAIN USING MACHINE LEARNING AND PHARMACOGENOMIC DATA

Zompola A.[1], Botou P.[2], Asimakopoulos T.[3], Tsouma K.[2], Athanasiadi P.[4], Kouroukli I.[2], Gazouli M.[1]
*[1]National Kapodistrian University of Athens Greece School of Medicine, Athens, Greece; [2]Anaesthesiology Department and Pain Clinic Hippokration General Hospital of Athens, Athens, Greece; [3]Johns Hopkins School of Medicine, Department of Pathology, Division of Neuropathology, Baltimore, USA; [4]Athens College Psychico College, Athens, Greece*

**Objectives:** Opioids are commonly prescribed for chronic pain management in oncology patients. This research aims to develop a machine learning model for predicting individual responses to opioids, using a combination of genetic and clinical factors.

**Methods:** The proposed protocol involves the development of a high-dimensional machine learning model to predict responses to tramadol and codeine in oncology patients. Genetic data will be integrated from genes involved in opioid metabolism (e.g., OPRM1, CYP2D6), drug transporters (e.g., ABCB1), and additional pharmacogenomic markers, by using gene panels. Clinical variables such as age, gender, BMI, smoking status and comorbidities will also be embodied in the data for analyze. Gene expression profiles will be analyzed for phase I (CYP450) and phase II enzymes that contribute to opioid biotransformation, while clinical factors will be incorporated to refine predictions.

**Results:** Data collection and analysis are underway. As this study is in its initial stages, preliminary results are not yet available. The focus will be on presenting the study design, methodology and the anticipated approach for integrating data into the machine learning model. The finalized model is expected to provide robust predictions, leading to more tailored pain management strategies.

**Conclusions:** The protocol introduces an innovative approach to opioid therapy in chronic cancer pain management by integrating genetic and clinical data through machine learning. The study's design, aims to optimize pain relief, minimize opioid-related side effects and support a more personalized approach to patient care. Ongoing validation and refinement will prepare the model for future clinical application, ultimately enhancing the quality of life for oncology patients.

## OP13 | PALLIATIVE CARE AND THE QUALITY OF LIFE OF CANCER PATIENTS

Lapourta M.[1], Aliagas A.[2], Bisias K.[1], Anastasopoulou E.[1]
*[1]General Oncological Hospital of Kifisia "Oi Agioi Anargyroi", Kifisia, Greece; [2]General Anticancer Oncological Hospital "Agios Savvas", Athens, Greece*

**Background:** Cancer remains a major public health issue worldwide. According to the World Health Organization (WHO), it is estimated that each year, 56.8 million people—including 25.7 million in the last year of life—are in need of palliative care.

**Purpose:** The purpose of the present study was to investigate the role of palliative care in improving the quality of life (QoL) of cancer patients.

**Methods:** A literature review was conducted in the electronic databases Google Scholar and PubMed for scientific articles, published in Greek and English over the last 5 years (2020–2025), focusing on the relationship between palliative care and the quality of life (QoL).

**Results:** The studies showed a significant improvement in the quality of life (QoL) of patients who received palliative care. Patients experienced enhanced physical functioning, symptom reduction, and increased psychological resilience and emotional well-being. Palliative care interventions were associated with reduced levels of anxiety and stress, as well as a better understanding and acceptance of the disease trajectory by the patients. At the same time, caregivers demonstrated improved mental health with the care provided. Finally, palliative care was found to reduce the likelihood of hospital admissions, leading to decreased healthcare costs.

**Conclusion:** Despite extensive studies on palliative care, the investigation of QoL outcomes among patients receiving such care remains insufficiently researched. This may be due to the limited integration of palliative care services into health systems and the shortage of specialized healthcare professionals. Supporting palliative care through funding, training of healthcare professionals, as well as raising public awareness is fundamental to delivering high-quality and holistic care to oncology patients.

## OP14 | PALLIATIVE CARE NEEDS IN ADOLESCENTS AND YOUNG ADULT PATIENTS WITH CANCER

Anastasopoulou E.[1], Evangelou E.[2], Koutelekos I.[2], Govina O.[2], Polikandrioti M.[2], Petsios K.[3], Dousis E.
*[1]General Oncology Hospital of Kifissia "Agioi Anargyroi", Athens, Greece; [2]Department of Nursing, Faculty of Health and Care Sciences, University of West Attica, Athens, Greece; [3]Faculty of Nursing, National and Kapodistrian University of Athens, Athens, Greece*

**Background:** Evidence data indicated that the caring needs of adolescents and young adults (AYAs) 16–24 years old with cancer, are different than older adults and geriatric patients. Among these needs, palliative care (PC) needs seem to be fundamental for improved outcomes, better quality of life (QoL) and greater satisfaction from the provided care.
**Objectives:** To assess the PC needs of AYAs with cancer.
**Methods:** A cross-sectional study in a convenience sample of cancer patients that were under cancer therapy in a public hospital during the study period (2021–2023). The "Evaluating Supportive Care for Children with Cancer" scale was used to assess their PC needs.
**Results:** The study participated 150 AYAs (43.16% men and 56.83% women) reported low knowledge (43%, $p=0.001$), limited experience (28%, $p=0.001$) and positive attitude (33.3%, $p=0.001$) towards PC. One in two stated that PC should be implemented in all stages of the cancer therapy and not only in the end of life stage or only when the management of pain or other symptoms is difficult ($p=0.002$). The participants stated that their QoL is somewhat (36%) or much better (49.3%) at the time of the interview and that their health in the next year will be somewhat or much better (38.6% & 11.3%, respectively) ($p=0.001$). The vast majority of the AYAs strongly believe that they have a high chance of cure (70.6%, $p=0.006$) as well as their family (74%) and they often discuss it with their family (60%). The belief that they will manage to cure, has a great impact on their treatment decisions (91.3%, $p=0.001$) followed by the ability to participate/enjoy daily activities (74.6%). Other important determinants were as well the total treatment time from diagnosis (48%, $p=0.007$), the occurrence of side effects (46%, $p=0.013$) and the total duration of hospitalization (46%). Concerning the pain management, almost one in three participants reported high or moderate pain (31.3%) with stress, anxiety and depression related to the pain intensity ($p=0.028$). The symptom of pain was also associated ($p=0.001$) with loss of appetite (53.3%).
**Conclusions:** AYAs stated limited experience with PC implementation in practice reflecting the absence of such services in our country. In addition, AYAs reported clearly the need of such services and stressed their role in pain management and the quality of the provided care.

## OP15 | TITRATION OF INHALED MEDICAL CANNABIS 9% CBD/13% THC STRAIN IN ONCOLOGICAL PATIENTS. FIRST EXPERIENCE IN GREECE

Kontouli Z.[1,3], Foka E.[3], Papafili A.[2], Karampelas I.[2], Giozos I.[3], Syrigos K.[2,3]
*[1]Interventional Pain Clinic, Athens Medical Centre, Athens, Greece; [2]Department of Medical Oncology, Athens Medical Centre, Athens, Greece; [3]3rd Department of Medicine and Oncology, Athens School of Medicine, Athens, Greece*

**Introduction:** Cancer pain is still a challenge for most oncological patients. Inhaled medical cannabis offers an advantage due to its rapid onset of action.
**Materials and Methods:** Aim of this study is to find which titration protocol of inhaled medical cannabis is better for chronic cancer pain patients naïve on cannabis. We evaluated the effect of the drug on sleep, stress and pain. We also appraise the

| Week/ Time Day | Morning 06.00 | Mid-day 18.00 | Evening 18.00 | Nightime 22.00-24.00 |
|---|---|---|---|---|
| Week 1/ 1-3d | - | - | - | 50 |
| Week 1/ 4-7d | 50 | - | - | 50 |
| Week 2/ 1-3d | 50 | - | 50 | 50 |
| Week 2/ 4-7d | 50 | 50 | 50 | 50 |
| Week 3/ 1-3d | 50 | 50 | 50 | 100 |
| Week 3/ 4-7d | 100 | 50 | 50 | 100 |
| Week 4/ 1-3d | 100 | 50 | 100 | 100 |
| Week 4/ 4-7d | 100 | 100 | 100 | 100 |
| Week 5/ 1-3d | 100 | 100 | 100 | 150 |
| Week 5/ 4-7d | 150 | 100 | 100 | 150 |
| Week 6/ 1-3d | 150 | 100 | 150 | 150 |
| Week 6/ 4-7d | 150 | 150 | 150 | 150 |

| Week/ Time Day | Morning 06.00 | Mid-day 12.00 | Evening 18.00 | Nightime 22.00-24.00 |
|---|---|---|---|---|
| Week 1/ 1-3d | - | - | - | 150 |
| Week 1/ 4-7d | 50 | - | - | 150 |
| Week 2/ 1-3d | 100 | - | - | 150 |
| Week 2/ 4-7d | 150 | - | - | 150 |
| Week 3/ 1-3d | 150 | 50 | - | 150 |
| Week 3/ 4-7d | 150 | 100 | - | 150 |
| Week 4/ 1-3d | 150 | 150 | - | 150 |
| Week 4/ 4-7d | 150 | 150 | 50 | 150 |
| Week 5/ 1-3d | 150 | 150 | 100 | 150 |
| Week 5/ 4-7d | 150 | 150 | 150 | 150 |
| Week 6/ 1-3d | 150 | 150 | 100 | 150 |
| Week 6/ 4-7d | 150 | 150 | 150 | 150 |

difficulty of the usage if the device as this was something new to patients 21 patients were enrolled for 12 weeks. Mean age was 57 years old ± 5 years. Nine patients were males, and 12 patients were females. All patients were chronic cancer pain patients on analgesics such as paracetamol and weak opioids (tramadol and tapentadol). Two patients were also on fentanyl patch 25μ/h. All patients had a VAS pain score more than 5 out of 10.
Four questionnaires were used for: VAS score, Stress score, Insomnia/ sleep (ISI) and Device satisfaction.
**Results:** Twenty patients completed the study. All 20 patients found the device very friendly and easy to use. All patients presented with reduction in pain by 2 VAS score units. Patients on the aggressive group reached this on week 10 compared with patients on the conservative group who reached reduction n in pain in week 9. All patients described improvement of sleep with first group to reach a better night sleep being the aggressive group. By week 6, all patients had same sleep improvement. Patients reached dose mg to 600 mg/day.
**Conclusion:** The management of pain with medical cannabis can be a valuable approach for clinicians, especially when other therapies are insufficient. Careful titration is essential.

## REFERENCES

1. Arun Bhaskar, Alan Bell, Michael Boivin, et al. Consensus recommendations on dosing and administration of medical cannabis to treat chronic pain: results of a modified Delphi process. *Journal of Cannabis Research*.

## OP16 | PARENTAL AND CHILDREN'S SATISFACTION FROM PAIN MANAGEMENT IN ACUTE CARE SETTINGS IN TWO PAEDIATRIC PUBLIC HOSPITALS IN GREECE

Vathi E.[1], Petsios K.[2], Dousis E.[3], Koutelekos I.[3], Anastasopoulou E.[4], Evangelou E.[3]
*[1]General Paediatric Hospital of Penteli, Athens, Greece; [2]Faculty of Nursing, National and Kapodistrian University of Athens, Greece; [3]Department of Nursing, Faculty of Health and Care Sciences, University of West Attica, Attica, Athens, Greece; [4]General Oncology Hospital of Kifissia "Agioi Anargyroi", Athens, Greece*

**Background:** The views of parents and children regarding the quality of the provided care in the emergency department are greatly influenced by their experiences, especially regarding symptoms' management, among which pain management stands as a core determinant. Aim of this study was to evaluate parental and children's satisfaction from pain management in acute care settings in two paediatric public hospitals in Greece
**Methods:** A prospective study was conducted with the participation of parents and children who visited the emergency departments of two public pediatric hospitals during the study period. Pain levels were assessed with an appropriate scale, and parents and children were asked to evaluate the implemented pain management and describe their experience and views regarding painful interventions during their stay in the emergency department. The study was approved by the ethical committees of the hospitals. Analysis was performed with SPSS v.29.
**Results:** The study included 552 children (Group A: 333 (189 boys, 144 girls) aged 5–8 years (6.52 ± 0.73 years)) and (Group B: 219 (115 boys, 104 girls) aged 9–16 (12.32 ± 2.05 years) and 989 parents (263 fathers (26.6%), 726 mothers (73.4%))). A considerable proportion of children reported moderate to severe pain leading to hospital visits (Group A: 41.9%; Group B: 31.1%) and during ED admission (Group A: 23.4%; Group B: 27.4%). Pain due to interventions was also notable (Group A: 19.8%). Despite this, the majority of children in both groups reported being satisfied or very satisfied with the care received (Group A: 59.9%; Group B: 63%). Among the 989 parents (mean age 42.3 ± 6.3 years), most reported no (43.9%) or minimal (13.3%) pain prior to ED arrival, and only a small proportion reported significant pain upon arrival (4.3%) or due to ED interventions (15.2%). Overall parental satisfaction was high, with only 15.7% reporting low or very low satisfaction. Notably, parents whose children experienced pain during the ED visit were significantly less satisfied with the care provided ($p = 0.001$). However, satisfaction levels did not significantly differ based on the child's age ($p = 0.264$) or gender ($p = 0.207$), or the parent's gender ($p = 0.996$).
**Conclusion:** These findings underscore the importance of effective pain management in pediatric emergency settings, not only for clinical outcomes but also for enhancing patient and parental satisfaction with care.

## OP17 | PRELIMINARY RESULTS OF THE GREEK CHRONIC PAIN & PALLIATIVE CARE REGISTRY

Siafaka I.[1,2], Kouroukli E.[3], Chronakis I.[4], Makris A.[5], Stavropoulou E.[6], Anisoglou S.[7], Kritikou P.[8], Vadalouca A.[9,2]
*[1]Aretaieio Hospital, Athens, Greece; [2]Hellenic Society of Pain Management and Palliative Care (PARH.SY.A.), Athens, Greece; [3]Ippokrateio Hospital, Athens, Greece; [4]General Hospital of Rethymno, Rethymno, Greece; [5]Asklipieio Hospital, Athens, Greece; [6]KAT Hospital, Athens, Greece; [7]Theageneio Hospital, Thessaloniki, Greece; [8]Rare Disease Consulting, Athens, Greece; [9]Pain & Palliative Care Center, Athens Medical Center, Athens, Greece*

**Background:** Chronic pain and palliative care represent growing clinical and public health challenges. A registry was developed under the coordination of the Hellenic Society of Pain Management and Palliative Care (PARH.SY.A.), aiming to document patient characteristics, pain types, interventions, and outcomes across specialized Pain Clinics in Greece.[1] Here we present preliminary results from the first phase of registry implementation (May–June 2025).
**Methods:** This is a prospective, observational multicenter study, including adult patients with chronic pain care. Data are collected at baseline and all subsequent visits using a standardized electronic platform and include demographics, ICD-11 diagnosis, comorbidities, pain characteristics, and prior treatments. Pain assessment tools include the Numeric Rating Scale (NRS), DN4, PainDETECT, and the Short-Form McGill Pain Questionnaire. Patients also complete the Pain Catastrophizing Scale and EQ-5D-5L, while their caregivers complete the Zarit Burden Interview. Descriptive analyses were performed using R.
**Results:** Eighty-three patients completed their first visit across 7 Pain Centers in Athens, Crete, and Thessaloniki. Mean age was 68.1 years (SD: 13.5); 62% were female. Most had comorbidities (77%), most commonly hypertension (48%). Prior analgesic use was reported in 81%, despite 95% lacking a formal chronic pain diagnosis. Mean NRS score was 7.5 (SD: 1.8) and mean McGill score was 9.9 (SD: 8.6). Common diagnoses included chronic musculoskeletal (52%) and chronic primary pain (17%). New analgesics were prescribed to 44% (57% received pregabalin), while 62% were referred for interventions, including diagnostic/therapeutic nerve blocks (41%). Mean Pain Catastrophizing score was 20.9 (SD: 14.6); EQ-5D-5L utility 0.48 (SD: 0.3); caregiver burden score 41.3 (SD: 29.8).
**Conclusions:** These findings highlight the feasibility and clinical utility of a national pain registry. Ongoing data collection will inform service planning and quality improvement in pain and palliative care.

### REFERENCES

1. Kritikou P, Siafaka I, Vadalouka A, The Greek Registry on Chronic Pain and Palliative Care: Objectives & Methods. Presented at *Rome Pain Days*, Italy, 2025.

## OP18 | WHEN TOO MUCH IS NOT ENOUGH: ULTRA HIGH DOSE REMIFENTANYL REQUIREMENT IN HEROIN DEPENDED PATIENT UNDERGOING LAPAROSCOPIC HERNIA REPAIR

Tsouma K., Georgitsogiannakos P., Filippousi F., Braimakis F., Papakonstantinou A., Christodoulou K., Kouroukli E.
*General Hospital of Athens "IPPOKRATEIO", Anesthesiology department, Athens, Greece*

**Background:** Managing anesthesia and postoperative analgesia in patients with a history of chronic heroin use is a well-recognized challenge due to profound opioid tolerance. These patients may require opioid doses exceeding standard recommendations, posing unique perioperative risks and management dilemmas.[1]
**Case Presentation:** We present the case of a 44-year-old male with a longstanding history of daily heroin use who was admitted for elective laparoscopic hernia repair. Standard perioperative doses of remifentanil for analgesia (0.1–1 μg/kg/min) proved grossly inadequate. The remifentanil infusion was incrementally increased, reaching a maximum of 6 μg/kg/min to maintain satisfactory anesthesia-analgesia, with stable intraoperative hemodynamics. At the conclusion of the procedure, the patient was administered 10 mg intravenous morphine for postoperative pain relief. Despite this, he continued to experience severe pain, vocalizing significant discomfort and requesting additional analgesia. Subsequently, 250 μg intravenous fentanyl was administered twice, within a few minutes, before the patient finally reported effective pain relief. He was transferred to the ward without any episodes of respiratory depression, hemodynamic instability, or other complications.
**Conclusion:** This case highlights the extreme opioid tolerance encountered in patients with chronic heroin dependence, both during anesthesia and in the immediate postoperative period.[2] The need for ultra-high intraoperative opioid doses, along with substantial postoperative analgesic requirements, underscores the importance of careful perioperative planning, vigilant monitoring, and individualized pain management strategies in this challenging population.[3] In this case, the drive of addiction appeared stronger than the effect of even high doses of pain medication, emphasizing the complexity of treating pain in opioid-dependent individuals. Awareness of the potential for rapid escalation in opioid requirements is essential for safe and effective care, while avoiding opioid-induced adverse effects. Further research and guidelines are needed to optimize management in such complex cases.

### REFERENCES

1. Soyannwo OA, Amanor-Boadu SD. Opioid tolerance and anaesthesia. *Anaesthesia & Intensive Care Medicine*. 2017;18(1):12–14.
2. Chu LF, Angst MS, Clark D. Opioid-induced hyperalgesia in humans: molecular mechanisms and clinical considerations. *The Clinical Journal of Pain*. 2008;24(6):479–496.
3. Hayhurst CJ, Durieux ME. Differential opioid tolerance and opioid-induced hyperalgesia: a clinical reality. *Anesthesiology*. 2016;124(2):483–488.

## OP19 | ANESTHETIC AND ANALGESIC DRUG MANAGEMENT IN ONCOLOGY PATIENTS: SPECIAL CONSIDERATIONS

Kaplani E.M.[1], Kaloutsis M.[2], Anastasopoulou E.[3], Mariolis-Sapsakos T.[4]
*[1]Anatomy Lab, Department of Nursing, National and Kapodistrian University of Athens, Athens, Greece; [2]Faculty of Medicine in Pilsen, Charles University, Pilsen, Czech Republic; [3]"General Cancer Hospital Agioi Anargyroi", Athens, Greece; [4]Department of Nursing, National and Kapodistrian University of Athens, Anatomy Laboratory, Athens, Greece*

**Background:** Oncology patients undergoing surgery require carefully tailored anesthetic and analgesic approaches due to the complex interplay between drugs, immune response, tumor biology, and perioperative stress. Anesthetic agents can modulate inflammation and cancer progression, while pain control strategies must balance efficacy with the risk of opioid-related adverse effects. This presentation reviews recent literature and clinical data on the immunomodulatory properties of anesthetic and analgesic agents in cancer surgery. It also analyses current OFA (opioid-free analgesia) techniques, focusing on their application in perioperative pain management for oncology patients.
**Methods:** A comprehensive narrative review was conducted using PubMed, Embase, and Google Scholar (2019–2024), with keywords including "oncologic anesthesia," "intravenous anesthetics," "volatile anesthetics," "cancer pain," and "opioid-free analgesia." Articles in English and Greek were included, with an emphasis on clinical applications and immunologic impact.
**Results:** Intravenous anesthetics such as propofol demonstrate anti-inflammatory effects and potential tumor-suppressive properties. Inhalational agents like sevoflurane have been associated with pro-inflammatory and pro-metastatic signaling. Regarding analgesia, OFA protocols incorporating ketamine, dexmedetomidine, lidocaine, and NSAIDs have shown promise in reducing opioid use, maintaining immune stability, and enhancing functional recovery. The integration of anesthetic and analgesic planning is therefore crucial in oncologic settings, influencing not only symptom control but potentially long-term outcomes.
**Conclusion:** Effective anesthetic and analgesic drug management in oncology patients should involve a personalized, multimodal approach. The combined use of immune-supportive anesthetic agents and opioid-sparing analgesic techniques can minimize perioperative risks and optimize patient recovery, contributing to better quality of care and potentially improved survival in cancer patients.

## OP20 | PALLIATIVE CARE IN THE EMERGENCY DEPARTMENT: THE IMPORTANCE OF EDUCATING AND TRIANING THE WORKFORCE

Foradi E.[1], Siafaka I.[2], Koutsoukou R.[3]
*[1]General and Oncological Hospital of Kifisia, Athens, Greece; [2]Medical School, National and Kapodistrian University of Athens, Athens, Greece; [3]General Hospital G.N.A Gennimatas, Athens, Greece*

**Background:** In the past decade, there has been growing recognition on the importance of incorporating palliative care provision in the Emergency Department.
The imperative to educate the Emergency Department workforce in primary palliative care has only recently been established.
Despite the progress, substantial work has yet to be done in order to be provided high-quality palliative care in the Emergency Department.
**Methods:** A literature review was conducted to assess current practices in palliative care integration within the ED. Two forms of palliative care were identified: primary and specialty. The role of primary palliative care is to provide an interdisciplinary, medical, psychological and spiritual/existential approach not only to the patients with serious illnesses but their families too, aimed at relieving suffering and improving quality of life.
The plethora of scientific evidence attests that early identification of the critical ill patients who need primary palliative care in the Emergency Department, will improve the End-of-Life care and reduce medical utilisation and cost. Education and clinical training of ED physicians are essential, and additional research is needed to develop practice guidelines and innovative care models.
**Results:** Early integration of palliative care at the time of Emergency Department visits is important for improving the quality of care for critically ill patients and their families.
The emergency physicians are important to develop the communication and clinical skills required to meet these patients' complex needs.
There is an urgent need for structured training programs and further research to support evidence-based guidelines.
**Conclusions:** Research over the past decade strongly supports the early integration of primary palliative care in the Emergency Department will reduce "suffering", achieve greater control over the dying process, and improve the overall quality of End-of-Life care. Education and training of the ED workforce are critical components of this effort.

### REFERENCES

1. Bowman J, Meier DE. Palliative care for emergency clinicians. *Clin Geriatr Med*. 2018;34(3):439–456.
2. Grudzen CR, Siman N, Cuthel AM, Adeyemi O, Yamarik RL, Goldfeld KS; Palliative Care Initiated in the Emergency Department: A Cluster Randomized Clinical Trial. *JAMA*. 2025 Feb 18;333(7):599–608. https://doi.org/10.1001/jama.2024.23696. PMID: 39813042; PMCID: PMC11836764.
3. Cooper E, Hutchinson A, Sheikh Z, Taylor P, Townend W, Johnson MJ. Palliative care in the emergency department: A systematic literature qualitative review and thematic synthesis. *Palliat Med*. 2018 Oct;32(9):1443–1454. https://doi.org/10.1177/0269216318783920. Epub 2018 Jul 20. PMID: 30028242.

## OP21 | MEDIAL BRANCH BLOCKS AND CONTINUOUS RADIOFREQUENCY IN THE TREATMENT OF LOWER BACK PAIN

Apostolos Chatzikalfas
*Neurosurgery and Pain Center, Rhodos, Greece*

**Introduction:** Lower back pain is very common. Most common causes include arthritis, structural problems and disk injuries. A medial branch nerve block is a minimally invasive injection procedure that involves injecting a small amount of a local anesthetic, with or without a corticosteroid, near the medial branch nerves – the small nerves near the facet joints of the spine that carry pain signals from the joints to the brain, Radiofrequency ablation (RFA), disrupts pain signals of the spinal nerves, is a safe, low cost treatment option for chronic low back pain.
**Methods and Materials:** In 18 months we treated 245 patients with lower back pain. The MRI of the lumbar region showed different pathologies, including degeneration of the joints, muscle atrophy, Listhesis etc. From a surgical point of view there was either no clear surgical indication or the patient didn't want operation. All of the patients had previously had multiple medication's and sessions of physiotherapy.
According to our treatment protocol in these patients we first preform a diagnostic block of the related medial branch branches, if positive we repeat the blocks with a combination of local anaesthetic and corticosteroids. If the result doesn't last long enough a Radiofrequency treatment is suggested.
**Results:** Out of the 245 patients, all of them were initially treated with MBBs and 82 were treated with a CRF treatment. Pain Detect questioners were used to evaluate the results. All patients that were treated with a MBB combined with physiotherapy and assistent medication, had at least 6–12 weeks of sufficient pain relief. From the 245 patients, 145 were satisfied with the combined treatment, 82 still had relevant symptoms and were treated with CRF and 18 Patients although still not satisfied, didn't want any further treatments. Out of the 82 patients, 76 had a sufficient (> 50%) pain relief in the 3 month follow up, 56 still had a sufficient pain relief in the 6 month follow up. Out of 12 patients that had a 12 month follow up, 5 were still satisfied with the result and 7 had relevant pain but didn't wish a treatment at that time.
**Discussion:** CRF is an effective pain treatment. Compared to more costly and ivasive treatments like SCS and Multifidus Stimulation, it should be concidered as a first step treatment.
**Conclusion:** CRF is a safe, minimal invasive and stable treatment that, combined with adapted physiotherapy and adjusted medication can offer a long lasting pain relief.

1. A holistic approach of different pain treatments should always be considered, preferably from minimal to more invasive treatment.
2. Especially in situations where cost of a treatment play a decisive role, Medial Branch Blocks and RF treatments are optimal solutions to help patients.
3. Radiofrequency treatments are still the stepping stone to any Neuromodulation solution, since nowadays we tend to treat patients for more than 15 years.

## OP22 | THE COMBINATION OF CONTINUOUS AND PULSED RADIOFREQUENCY IN THE TREATMENT OF CERVICOGENIC HEADACHE

Apostolos Chatzikalfas
*Neurosurgery and Pain Center, Rhodos, Greece*

**Introduction:** Cervicogenic headache is caused by a cervical spine issue. It's a type of secondary headache. Ganglion Sphenopalatinum and Occipital Nerve blocks are known techniques and have been used to treat forms of persistent headaches such as cervical headache, cluster headache, migraine and occipital neuralgia. Radiofrequency treatments have been known to disrupt pain signals in the second and third neuron.
**Methods and materials:** In 12 months we treated 22 patients with cervicogenic headache. In all patients a cervical MRI which showed various alterations of the cervical spine without a clear underlying reason for the headache that could be surgically improved. All have had various medications and physical therapy which did not help. In our center we first offer therapeutic blocks and if the blocks don't last long enough or don't reduce the pain enough we suggest radiofrequency treatments.
**Results:** All 22 patients initially underwent a series of blocks on both the SPG and the Occipital nerves which gave us more that 70% control the symptoms. Three months after the blocks 10 out of the 22 patients were happy with the result of the blocks. The 12 patients which did not experience sufficient pain relief or the pain relief didn't last long enough, a radio frequency treatment was suggested.
On these 12 patients we performed a combination of CRF treatment of the occipital nerves and a PRF of the SPG. Full 12 patients experienced sufficient (over 50%) immediate pain relief. Three and 6 weeks after the treatment all 12 patients were still satisfied (over 50% control of the symptoms) with the result of the combined treatment. The related medication was reduced by 30% 3 months later 10/12 patients were still very satisfied with the treatment. The other 2 patients had an episode of severe headache, but were still better than before the treatment. Six months later 7/12 patients were satisfied with the course of the treatment. The other five experienced a relapse of the symptoms, but with a combination an adjustment of the medication and physiotherapy, they were able to control the symptoms. 12 months later all 12 patients have experienced a relapse of their symptoms. In all 12 patients an adjustment of the medication was needed.
**Discussion:** Continous and Pulsed Radiofrequency treatments are the steping stone of neuromodulation and can provide a stable and reliable solution for cervicogenic and other forms of headache. If the conditions require it, other forms of neuromodulation can also be used, such as the permanent stimulation of SPG or the occipital nerve.

### REFERENCES

1. Peres et al. 2002; Anthony 2000.
2. Radiofrequency Ablation of Pericranial Nerves for Treating Headache Conditions: A Promising Option for Patients. Alaa Abd-Elsayed, Laura Kreuger, Shawna Wheeler, Janet Robillard, Susanne Seeger, Douglas Dulli.
3. Ducic I., Hartmann EC., Larson EE. Indications and outcomes for surgical treatment of patients with chronic migraine headaches caused by occipital neuralgia. *Plast Resonstr Surg.*

2009 May; 123(5): 1453–1461. https://doi.org/10.1097/PRS.0b013e3181a0720e.
4. Ambrosini A., D'Alessio C., Magis D., Schoenen J. Targeting pericranial nerve branches to treat migraine: current approaches and perspectives. *Cephalalgia*. 2015; 35 14: 1308–1322. https://doi.org/10.1177/0333102415573511.
5. Cohen SP., Peterlin BL., Fulton L., et al. Randomized, double-blind, comparative-effectiveness study comparing pulsed radiofrequency to steroid injections for occipital neuralgia or migraine with occipital nerve tenderness. *Pain*. 2015. December; 156 12: 2585–2594.

## OP23 | EARLY STELLATE GANGLION BLOCKADE FOR HERPETIC NEURALGIA OF THE HEAD AND UPPER LIMB: A STRATEGY FOR PAIN CONTROL AND PREVENTION OF POSTHERPETIC NEURALGIA

Kouroukli I.[1], Botou P.[1], Tsouma K.[1], Papavassilopoulou T.[2], Monopatis O.[1], Braimakis F.[1], Athanasiadi P.[3], Asimakopoulos T.[4]
*[1]Hippocration General Hospital of Athens, Department of Anesthesiology and Pain Medicine, Athens, Greece; [2]Hippocration General Hospital of Athens, Intensive Care Unit, Athens, Greece; [3]Athens College Psychico College, Athens, Greece; [4]Johns Hopkins School of Medicine, Division of Neuropathology, Department of Pathology, Baltimore, USA*

**Background:** Acute herpetic neuralgia (AHN) can be debilitating, with limited treatment options in patients contraindicated for systemic analgesia. Stellate ganglion block (SGB) may provide rapid pain relief and potentially reduce progression to postherpetic neuralgia (PHN).
**Methods:** Two patients with acute herpetic neuralgia of the head and upper limb were treated early with fluoroscopy-guided stellate ganglion blocks using ropivacaine, adrenaline, and dexamethasone.
**Results:** The first case involved a 64-year-old female with right upper limb herpetic neuralgia (C5–C7 dermatomes) refractory to gabapentin, acetaminophen, and tramadol. A block was performed using 7 mL of 0.5% ropivacaine with adrenaline (1:200,000) plus 8 mg dexamethasone. After two injections, her pain (NRS 8/10) resolved completely (NRS 0), and she remains PHN-free at 18 months. The second case involved a 78-year-old male with facial herpes zoster (V1 dermatome) and renal impairment limiting systemic therapy. Despite low-dose pregabalin and tramadol, he had severe pain (NRS 10/10). Two SGBs were performed with 5 mL of 0.5% ropivacaine with adrenaline and 8 mg dexamethasone each. His pain decreased sustainably (NRS 1–2/10), tramadol was discontinued, and pregabalin tapered. Only transient hoarseness was observed. Six months after the block he is pain free and has discontinued pregabalin as well.
**Conclusion:** These cases suggest that early SGB may offer dual benefits: acute pain relief and prevention of PHN, especially in complex patients with limited medication options. Repeated SGBs may modulate neuroimmune responses and interrupt pain chronification pathways.

## OP24 | WHEN EVERYTHING GOES WRONG: CHALLENGES AND PITFALLS IN NEUROMODULATION FOR SEVERE CHRONIC NEUROPATHIC PAIN

Tsaroucha A.[1], Peios D.[1], Episkopou E.[2], Sotiropoulos S.[3], Orfanou C.[1]
*[1]1st Department of Anesthesiology and Pain Medicine, Aretaieion University Hospital, National and Kapodistrian University of Athens, Athens, Greece; [2]Anaesthesiology Department, Metropolitan Hospital, Athens, Greece; [3]Physiotherapy department & Musculoskeletal Physiotherapy Research Laboratory, University of West Attica, Athens, Greece*

**Background:** Peripheral nerve stimulation is increasingly used in refractory neuropathic pain conditions. Although considered minimally invasive and safe, complications can occur, leading to significant patient distress and therapeutic dilemmas.
**Methods:** We report the complex case of a 51-year-old male presenting to our clinic with severe chronic neuropathic pain (VAS 7-8, DN4 9-10) in the lumbar and gluteal region, hyperalgesia, allodynia, and significant psychological distress, including suicidal ideation. His symptoms began 4 years earlier following a weight-lifting injury, subsequently undergoing multiple evaluations by various specialists and receiving numerous ineffective treatments. Initial diagnoses included piriformis syndrome, treated surgically without success, and subsequently cluneal nerve entrapment, leading to neurectomy (S1–S5 and coccygeal nerves), performed within the context of 1-day surgery. Upon our assessment, he was receiving duloxetine and oxycodone-paracetamol combination, having previously discontinued gabapentin and pregabalin due to adverse effects, including sexual dysfunction. A comprehensive multimodal approach was initiated, involving cautious reintroduction of pregabalin, cognitive-behavioral therapy (CBT), immediate psychiatric referral, detailed discussion of treatment options, and a trial of peripheral nerve stimulation.
**Results:** The patient initially showed improvement (40% pain reduction) during the stimulation trial. Permanent implantation, however, was complicated by severe local infection and intolerable pain at the electrode insertion site, necessitating urgent removal under sedation and prolonged antibiotic therapy. Despite resolution of infection, the patient's original neuropathic symptoms recurred, presenting ongoing therapeutic challenges.
**Conclusion:** This case highlights critical considerations in patient selection, management of patient expectations, and the risks associated with neuromodulation procedures. Comprehensive multidisciplinary support and cautious decision-making remain essential, particularly in patients with previous therapeutic failures and psychological distress.

## OP25 | THE USE OF HIGH VOLUME EPIDURAL AGAINST LUMBALGIA SCIATICA: A 20-YEAR EXPERIENCE AT THE GENERAL HOSPITAL OF RHODES, GREECE

Tsoleridis T.[1], Pittas A.[2], Diakostavrianou M.[1], Laspa D.[1], Sokorellos S.[2], Sokorellos M.[2]
*[1]Department of Anesthesiology, General Hospital of Rhodes, Greece; [2]Department of Orthopedics, General Hospital of Rhodes, Greece*

**Background:** High-volume lumbar epidural (HVE) injections represent an interventional strategy for managing sciatica by delivering medication in a larger volume to the epidural space. This approach may enhance drug distribution and reduce inflammation. This study presents a 20-year retrospective analysis conducted at the General Hospital of Rhodes, Greece.
**Methods:** Data were collected from 185 patients (82 males and 103 females) who received HVE injections. Each patient was administered a 50 mL solution comprising dexamethasone, betamethasone, fentanyl, and ropivacaine. Injections were performed in the lumbar region using the loss-of-resistance-to-air technique.
**Results:** Among the 185 patients, 24 (14 females) received an additional injection, most of whom underwent the second procedure at least 1 year after the initial treatment. Nine patients (8 females) reported moderate to poor outcomes. Adverse events included three cases with symptoms suggestive of Horner's syndrome. One patient experienced loss of consciousness and a high-grade motor block lasting approximately 3 h, which subsequently resolved.
**Conclusion:** High-volume lumbar epidural injections appear to be a viable long-term intervention for managing sciatica, offering improved medication spread and potential symptom relief. Over a 20-year period, the majority of patients experienced favourable outcomes, with relatively few requiring repeat injections. While most adverse effects were mild and self-limiting, isolated cases of more significant reactions, such as transient motor block and Horner's-like symptoms, highlight the importance of careful patient selection and monitoring. These findings support the continued use of HVE in clinical practice, with attention to safety and individualized follow-up.

## OP26 | THE INTRARTICULAR COMBINATION OF FENTANYL, DEXAMETHASONE, CLONIDINE, AND ROPIVACAINE FOR HIP OSTEOARTHRITIS: A CASE REPORT

Tsoleridis T.[1], Pittas A.[2]
*[1]Department of Anesthesiology, General Hospital of Rhodes, Greece; [2]Department of Orthopedics, General Hospital of Rhodes, Greece*

**Background:** This case study involves an 84-year-old patient suffering from pain due to hip osteoarthritis. Conventional pharmacological and non-pharmacological treatments yielded only moderate relief, significantly impairing the patient's daily functioning. Due to multiple chronic comorbidities, the patient was not a candidate for surgical intervention and was deemed ineligible for intra-articular stem cell injections due to advanced age.
**Methods:** A 6 mL solution containing fentanyl, dexamethasone, clonidine, and ropivacaine was injected intra-articularly into the hip joint. The procedure was performed under strict aseptic conditions using a 22-gauge needle, with radiological confirmation of accurate needle placement. Written informed consent was obtained prior to the intervention.
**Results:** The patient experienced immediate pain relief and continues to report sustained, adequate pain control 1 year post-injection. Daily activities are no longer significantly hindered by pain.
**Conclusion:** This multifactorial intra-articular injection approach appears to provide safe and effective pain relief in a patient with severe hip osteoarthritis who is ineligible for surgery or regenerative therapies. These promising results support further investigation, and a randomized controlled trial is being planned to evaluate the efficacy of this treatment on a larger scale.

## OP27 | IS MIXING ROPIVACAINE AND DEXAMETHASONE HAZARDOUS IN EPIDURAL INJECTIONS FOR LUMBALGIA SCIATICA? DATA FROM THE GENERAL HOSPITAL OF RHODES FOR THE DECADE 2014–2024

Theofilos Tsoleridis
*Department of Anesthesiology, General Hospital of Rhodes, Rhodes, Greece*

**Background:** Recent studies have shown that the combination of ropivacaine and dexamethasone for epidural injections is generally discouraged due to the potential risk of crystallization and embolization, which could result in serious neurological complications. This report presents data from the General Hospital of Rhodes, Greece, regarding the use of this drug combination for epidural injections over the decade from 2014 to 2024.
**Methods:** The collected data include a total of 275 patients (171 females) who underwent epidural injections for lumbalgia sciatica. Three patients had previously undergone spinal fusion surgery prior to receiving the epidural treatment. The injected solution consisted of a mixture of fentanyl, clonidine, dexamethasone, ropivacaine, and normal saline, with a total volume of 20 mL.
**Results:** Of the 275 patients, 208 reported excellent results at follow-up, with symptom relief typically occurring within 1 to 10 days. The remaining 67 patients (43 females) required repeat sessions. Among them, five patients eventually underwent spinal fusion surgery due to persistent sciatica symptoms. Notably, no adverse effects related to the drug combination were observed, and no macroscopic precipitate formation was noted during the preparation of the mixture.
**Conclusion:** The combination of ropivacaine and dexamethasone for epidural injections appears to be a safe and effective approach. While recent reports have raised concerns about the potential for crystalline formation when these drugs are combined, our clinical experience provides no clinical or macroscopic evidence to discourage their epidural administration.

## OP28 | PULSED RADIOFREQUENCY OF PUDENDAL NERVE FOR PELVIC PAIN. A CASE SERIES WITH LONG-TERM FOLLOW-UP

Mavromati M., Orfanou Ch., Tsaroucha A, Rekatsina M.
*Anesthesia and Pain Department, Aretaieion University Hospital, National and Kapodistrian University of Athens, Athens, Greece*

**Objectives:** Chronic pelvic pain (CPP) is a complex condition with various etiologies, including pudendal neuralgia, interstitial cystitis, piriformis syndrome, and neuropathies involving the ilioinguinal, iliohypogastric, and genitofemoral nerves. Despite differences in underlying causes, the most common clinical presentation includes urinary urgency and severe discomfort localized to the perineal and suprapubic regions, often associated with urinary hesitancy and a burning sensation. Treatment options for CPP are diverse and may include pharmacological management, pudendal nerve blocks, decompressive surgery, and neuromodulation techniques. Pulsed radiofrequency (PRF) therapy is a minimally invasive modality with promising results for neuropathic pain syndromes.
**Methods:** This study presents a case series evaluating the clinical efficacy of fluoroscopic guided PRF treatment of the pudendal nerve(s) in four patients with persistent pelvic and/or perineal pain who were referred to our pain clinic. Each case was assessed based on pain relief outcomes, functional improvement, and patient satisfaction following intervention.
**Results:** Four patients with chronic pelvic pain of varying etiologies experienced significant and sustained relief following pulsed radiofrequency (PRF) treatment of the pudendal nerve(s). PRF was administered after short-term relief from diagnostic nerve blocks and enabled medication reduction or discontinuation, with benefits lasting from 6 to over 14 months in most cases.
**Conclusions:** All four patients achieved significant, long lasting pain relief with PRF of the pudendal nerve, a minimal invasive, safe and easily performed procedure. This technique can be repeated and may offer even longer-term results, especially to patients that decline more invasive options such as sacral neuromodulation. As patient populations are heterogeneous, with a wide range of pain aetiologies, the best predictors of PRF success are diagnostic blocks – performed with either local anaesthetic alone or in combination with cortisone.

### REFERENCES

1. Ji F, Zhou S, Li C, Zhang Y, Xu H. Therapeutic Efficacy of Ultrasound-Guided High-Voltage Long-Duration Pulsed Radiofrequency for Pudendal Neuralgia. *Neural Plast*. 2021 Jul 30;2021:9961145. https://doi.org/10.1155/2021/9961145. PMID: 34373690; PMCID: PMC8349273.
2. Fang H, Zhang J, Yang Y, Ye L, Wang X. Clinical effect and safety of pulsed radiofrequency treatment for pudendal neuralgia: a prospective, randomized controlled clinical trial. *J Pain Res*. 2018;11:2367–2374. https://doi.org/10.2147/JPR.S167866. PMID: 30410389; PMCID: PMC6200082.

## OP29 | PULSED RADIOFREQUENCIES FOR PAIN TREATMENT IN SUPRASPINATUS TENDINOPATHY

Tzamakou E., Diamantopoulou F., Sotiriadis P., Abdullah M., Georgaki A., Anastasiou N.P., f.Rousakis G., Georgakis P.
*Department of Anaesthesia & Pain Clinic Korgialenio-Benakio General Hospital "The Red Cross"*

**Background:** Supraspinatus tendinopathy (SSPT) is a common cause of shoulder pain, often associated with overuse of the supraspinatus tendon and acromion impingement syndrome, and is frequently related to frozen shoulder. Pulsed radiofrequency (PRF) therapy has emerged as a non-invasive alternative for managing pain associated with SSPT
**Methods:** We evaluated 27 patients (18 females [66%], 9 males [34%]; mean age 64.5 years) presenting with shoulder pain attributed to supraspinatus tendinopathy. Pain was localized to the right shoulder in 21 patients (77%) and to the left shoulder in 6 patients (23%), with a mean baseline Visual Analogue Scale (VAS) pain score of $7 \pm 1$. All patients had a confirmed diagnosis of supraspinatus tendinopathy and had previously undergone various conservative treatments. PRF (~500 kHz) was delivered via transdermal patches in six 45-min sessions, administered twice weekly. Patches were applied sequentially to lateral (15 min), anterior (15 min), and posterior (15 min) aspects of the shoulder.
**Results:** All patients reported significant pain relief. Sixteen patients (60%) achieved a post-treatment VAS $\leq 4$, while 11 patients (40%) reported VAS $\leq 2$. Additionally, patients noted substantial improvement in shoulder mobility. Mild, transient side effects such as burning sensation or itching were reported in five patients (19%), with no serious adverse events observed. Eight patients (30%) asked to repeat treatment after 3 months, 12 patients (45%) after 6 months while 7 (25%) didn't ask after 12 months.
**Conclusion:** PRF therapy appears to be a safe, well-tolerated, and effective non-invasive option for managing shoulder pain in patients with supraspinatus tendinopathy. Beyond pain reduction, it also facilitates improved mobility and enhances adherence to physiotherapeutic rehabilitation protocols.

## OP30 | EVALUATION OF MASSETER MUSCLE THICKNESS AFTER GASSERIAN GANGLION RADIOFREQUENCY THERMOCOAGULATION: PRELIMINARY RESULTS

Tanyel Saraçoğlu T., Erken B.
*Başakşehir Çam and Sakura City Hospital, Istanbul, Turkey*

**Background:** Radiofrequency thermocoagulation (RFT) of the Gasserian ganglion (GG) is an established treatment for trigeminal neuralgia (TN). Given that the masseter muscle is innervated by the mandibular branch of the trigeminal nerve, there are concerns regarding potential motor involvement, muscle atrophy, or masticatory dysfunction following the procedure. The aim of this study was to evaluate whether GG-RFT causes measurable changes in masseter muscle thickness.
**Methods:** Nine TN patients (2 with isolated mandibular and 7 with combined mandibular–maxillary involvement) underwent GG-RFT targeting the relevant branches. Ipsilateral masseter thickness was assessed via ultrasound by the same

investigator at consistent anatomical levels, in both relaxed and fully contracted states, before the procedure and at 1- and 3-month follow-ups.

**Results:** At baseline, the mean masseter thickness in the relaxed state was 8.3 ± 0.74 mm; at 1 and 3 months, it was 7.13 ± 0.88 and 8.9 ± 0.78 mm, respectively. In the contracted state, the mean thickness was 11.47 ± 1.4 mm at baseline, 8.9 ± 1.06 mm at 1 month, and 11.35 ± 0.92 mm at 3 months. Wilcoxon analysis showed a statistically significant decrease in masseter muscle thickness in both relaxed and contracted states at 1 month compared to baseline ($p = 0.008$ for both), but no significant difference between baseline and 3 months ($p = 0.050$ and $p = 0.513$, respectively). These findings indicate that masseter muscle thickness decreased at the 1-month follow-up but returned to baseline levels by the third month.

**Conclusion:** Our preliminary data suggest that GG-RFT may lead to a temporary reduction in masseter muscle thickness in the early post-procedural period. However, by the third month, muscle thickness appears to return to pre-procedure levels.

**ClinicalTrials.gov ID:** NCT06278194.

## ORAL PRESENTATIONS IV

### OP31 | HEMODYNAMIC COLLAPSE DUE TO INTRATHECAL CATHETER MISPLACEMENT IN A TOTALLY IMPLANTED PUMP: A CASE REPORT

Vadalouca A.[1], Ftoulis G.[1], Tsaroucha A.[2]
[1]*Pain and Palliative Care Center of Athens Medical Center, Anesthesiology, Athens Medical Center, Athens, Greece;* [2]*First Department of Anesthesiology and Pain Medicine, National and Kapodistrian University of Athens, Athens, Greece*

A 57-year-old man with metastatic lung cancer and bone metastases in the right sacroiliac region and femur presented to the pain clinic with severe pain (VAS 8–10) and neuropathic symptoms (DN4 = 7). He was intolerant to opioids (urinary retention, vomiting, constipation) and pregabalin (dizziness, disorientation), leading to refusal of systemic analgesics.

A totally implanted intrathecal pump was placed. Cerebrospinal fluid (CSF) confirmed initial intrathecal access. While C-arm imaging was used for confirmation of entry, catheter advancement was performed without continuous fluoroscopic guidance. A mixture of morphine and 10% ropivacaine was administered via a 40 mL pump. Analgesia was inadequate, even after dose escalation. Patency was verified by CSF return through the port, but pain persisted.

A test dose of 2 mL ropivacaine 7.5% was administered. Shortly after, the patient developed hypotension (BP 70/40 mmHg), hypoxia ($PO_2$ 82), respiratory insufficiency, and upper limb motor weakness—indicative of high spinal block. Supportive care stabilized the patient.

Fluoroscopic imaging revealed the catheter tip at the T1 vertebral level. It was repositioned under C-arm guidance to T12, with subsequent adequate pain control and no further complications.

**Conclusion:** This case highlights a serious complication resulting from inadequate imaging during intrathecal catheter placement. Continuous fluoroscopic guidance—not just initial confirmation—is critical to ensure safe and effective drug delivery. Misplacement to high thoracic levels can cause life-threatening consequences. Strict adherence to imaging protocols is essential in interventional pain management, particularly in palliative care.

### OP32 | THE ANALGESIC EFFICACY OF TRANSCUTANEOUS PULSED RADIOFREQUENCY TREATMENT IN CHRONIC PAIN PATIENTS DUE TO DEGENERATIVE OSTEOARTHRITIS OF BIG JOINTS AND OF LUMBAR SPINE: OUR CLINICAL EXPERIENCE

Apostolidis D.[1], Choustoulaki M.[1], Chronakis I.[2], Ktistakis I.[2], Rodi M.[1], Rekatsina M.[3], Teixeira A.[4]
[1]*Department of Anesthesiology and Chronic Pain Clinic, General Hospital of Rethymno, Rethymno, Greece;* [2]*Orthopedic clinic Venizeleio-Pananeio Hospital of Heraklion, Heraklion, Greece;* [3]*Aretaieion University Hospital of Athens, Athens, Greece;* [4]*Clinica de Dor, Portugal*

**Objectives:** Musculoskeletal diseases are a leading cause of chronic pain, affecting millions of people annually. These conditions significantly impact patients' quality of life and cause substantial psychological, social, and economic distress. The most common include degenerative osteoarthritis, fibromyalgia, rheumatoid arthritis, and osteoporosis. To manage chronic musculoskeletal pain, various pharmaceutical protocols, as well as invasive and non-invasive methods, have been employed. One such method is Transcutaneous Pulsed Radiofrequency (TCPRF) Treatment. TCPRF is a pain-free, non-invasive method that uses two self-adhesive quadrant patch electrodes connected to a pulsed radiofrequency current generator, applied to the affected joint in an opposing configuration. The purpose of this study was to evaluate the analgesic efficacy of this non-invasive method (TCPRF) in the treatment of chronic musculoskeletal pain of the knee, shoulder and lumbar spine.

**Methods:** The study included 30 patients attending the Chronic Pain and Palliative Care Clinic of the General District Hospital of Rethymno – Crete, Greece, aged 41 to 87 years (mean age 65 years). Of those, 80% (24 patients) were female and 20% (6 patients) were male. Selection criteria included the failure of pharmaceutical chronic pain management and/or the inability to undergo any surgical intervention, either due to severe medical comorbidities or patients' unwillingness. A total of 90 sessions of transcutaneous pulsed radiofrequency treatment were performed on the 30 patients, with three sessions for each patient, with 10-day intervals between sessions.

**Results:** Patients' chronic pain evaluation was performed using the WOMAC Index Score (Western Ontario and McMaster Universities Osteoarthritis Index Score) on days 0, 10, and 20 before the first, second and third treatment application respectively. The analgesic efficacy of TCPRF in the management of chronic pain was evaluated and recorded as a percentage, based on WOMAC Score (WOMAC Index Score 100%: worst imaginable pain, WOMAC Index Score 0%: pain-free). Overall, 36.7% of patients suffered from degenerative lumbar spine osteoarthritis or chronic post-operative lumbar spine pain, 43.3% from degenerative knee osteoarthritis, and 20% suffered from chronic glenohumeral (shoulder) pain. The WOMAC Index Scores for all patients before the first treatment session ranged from 52% to 98% (mean

74%), before the second session from 27% to 92% (mean 58%), and before the third one from 21% to 71% (mean 44%). The WOMAC Index Score was also calculated according to the joint involved in the treatment. For patients treated for chronic osteoarthritis knee pain, the mean WOMAC Index scores were 82%, 53% and 40% prior to the first, second and third treatment session respectively. For those treated for chronic lumbar spine pain, the mean WOMAC Index scores were 74% before the first session, 60% before the second session, and 54% before the third session. For the patients treated for glenohumeral joint pain, the mean WOMAC Index scores were 68% before the first session, 52% before the second session, and 35% before the third one.

**Conclusions:** Transcutaneous pulsed radiofrequency treatment may reduce joint pain and can have a positive impact on the management of chronic lumbar spine pain, degenerative knee mechanical pain, and degenerative glenohumeral joint pain. However, its mechanism of action is still not fully elucidated. More observational studies and prospective clinical trials, as well as multicentre studies are needed to establish the benefits of this method, and to create new protocols for following up with patients to obtain reliable results and firm conclusions.

## OP33 | RADIOFREQUENCY VERSUS STEROID INJECTIONS FOR SPINAL FACET JOINT PAIN

Mis M.[1], Dimopoulos D.[2], Barba Ch.[1], Radulescu Th.[1], Papadakou E.A.[1], Kyriazos K.[1], Zafeiriadis Ch.[1], Frantzis F.[1], Bourlogiannis F.[2], Korfias S.[2], Romana C.[1]
*[1]Departments of Anaesthesiology and [2]Neurosurgery NKUA Medical School, Athens, Greece*

Radiofrequency (RF) ablation is a common treatment option for spinal facet joint pain (SFJ), often compared to steroid injections (SI). Lumbar facet joint pain is predominantly linked to degenerative osteoarthritis and results from joint degeneration, inflammation and nerve irritation. RF interrupts pain signals by destroying or modulating nerve tissue and SI address the joint inflammation and pain directly.

**Methods:** We compared two groups Group RF ($n=10$) and Group SI ($n=10$) treating SFJ pain.

Group RF patients were treated using RF ablation of L3-L4 branch primary dorsal rami and L5-S1 lateral sacral branch for 3 min 72°C–75°C, under C-arm guidance. In Group SI patients' 5 mL mixture of methylprednisolone 20 mg + 2 mL of naropeine 0.25% were injected in the same space under C-arm, too. Pain intensity was assessed by Visual Analogue Scale (VAS) at 3 and 6 months. Standard Mean Difference (SMD) for VAS and Mean Difference (MD) for functional disability were recorded.

**Results:** The Group SI had a higher functional disability score than Group RF at 3 and 6 months post treatment (MD 18), 21.36 to 16.20, $p<00001$ and at 3 months VAS 6.08 to 2.8 (0.9). At 6 months Group SI VAS 7.4 to Group RF 3.6 (SD1.2).

**Discussion:** This study suggests that RF may offer superior pain relief with longer duration compared to steroid injections for spinal facet. Future studies are needed to address whether innovations of the RF technique can influence duration of pain relief or success rate. The duration of pain relief more than 10–12 months in the RF Group apparently is influenced negatively by nerve regeneration, which takes place between 6 months and 1 year.

## OP34 | INVESTIGATION OF THE EFFECT OF TRANSCUTANEOUS VAGUS NERVE STIMULATION ON FIBROMYALGIA: PRELIMINARY RESULTS OF A DOUBLE BLIND RCT

Ampartzoglou P., Tsaroucha A., Siafaka I., Vadalouca A., Rekatsina M.
*Faculty of Medicine, NKUA, Aretaieion University Hospital, Athens, Greece*

**General:** Transcutaneous vagus nerve stimulation (tVNS) can help relieve pain in a range of clinical conditions. Modification of afferent signal transmission through the nucleus of the solitary tract (NST) has been proposed as the primary mechanism contributing to the reduction of pain intensity after tVNS. Fibromyalgia (FM) is an idiopathic chronic pain syndrome with few effective and safe treatments. The pain and associated symptoms of patients with FM can be improved by stimulation of the vagus nerve through modulation of autonomic and immune system functions. The effect of repeated tVNS sessions on FM have not been thoroughly evaluated in randomized clinical trials.

**Methodology:** The aim of the study is to evaluate whether percutaneous stimulation of the otic branch of the vagus nerve in patients with fibromyalgia can lead to a reduction in pain intensity and improvement in quality of life. Patients are being offered a 2-week treatment (14 30-min sessions each) in a randomized double-blind controlled trial. Patients have been divided into 2 groups (Group 1: suggested per os medication + tVNS stimulation, Group 2: suggested per os medication + sham tVNS).

**Results:**

| Measure | Active group ($n=7$) | Control group ($n=8$) |
|---|---|---|
| **NRS** reduction | 2.0 points | 2.37 points |
| **WPI** improvement | 3.4/19 points | 0.75/19 points |
| **SS scale** improvement | 4.1/12 points | 0.9/12 points |
| **DASS scale** reduction | 10.1/63 points | 3.9/63 points |
| **BPI Pain Interference** improvement | 3.9/70 points | 3.7/70 points |
| **BPI Pain Severity** reduction | 1.1/40 points | 6.5/40 points |
| **FiRST** improvement | 1.3/6 points | 0.5/6 points |

**Discussion:** This study examines a novel non-invasive and non-pharmacological way to relieve patients with fibromyalgia, where the impact on patients is huge and treatment options are limited. An important limitation of our study is the small number of patients included in the analysis. The preliminary results of this randomized controlled trial suggest that tVNS has potential benefits in reducing pain and improving fibromyalgia symptoms, although the differences between the active and control groups were modest.

## OP35 | COMBINATION OF ERECTOR SPINAL PLANE BLOCK (ESPB) AND PARAVERTEBRAL BLOCK (PVB) FOR POSTOPERATIVE ANALGESIA AFTER MAJOR THORACIC SURGERY INVOLVING THORACIC WALL RECONSTRUCTION

Sarridou D.G., Marchi A., Fengoudaki M., Manos T., Amaniti A., Mitos G., Grososmanidis V., Argiriadou H.
*Anaesthesiology, AHEPA University Hospital, Thessaloniki, Greece*

**Introduction:** Thoracic surgery and more precisely chest wall reconstruction is associated with high incidence of postoperative pain. Acute pain management requires multimodal anaetshesia with the use of truncal peripheral nerve blocks.
Our patient, a 69-year-old patient with a history of myasthenia gravis and thymoma resection 20 years ago. Additional medical history includes hypertension and chronic coronary disease. She had good functional status under treatment with monoclonal antibodies, pyridostigmine, a beta-blocker, amiodarone, and an angiotensin receptor blocker. The patient was admitted for surgery due to tumor recurrence, which had infiltrated the thoracic wall, requiring reconstruction of the sternal region.
**Methods:** After anaesthesia induction we initially performed a right sided ESPB block at T4 με 20 mL of 0.375% ropivacaine and 8 mg of dexamethasone were administered. Maintenance of anesthesia was achieved with TCI of propofol and remifentanil. The procedure was extended to the left side, including rib dissection from the sternum, resection of the sternum, and removal of the first two ribs on the right side. The total duration of the surgery was 8.5 h. Before the end of the procedure, a paravertebral block was performed by the surgeons under direct vision using 20 mL of 0.375% ropivacaine. The patient was transferred to the ICU due to her medical history, the complexity of the procedure, and the duration of mechanical ventilation.
**Results:** Patient was extubated on D1 postop haemodynamically stable with good gas exchange. Her respiratory function was adequate. Surprisingly enough she reported no postoperative pain VAS was from 0 to 1 all through her ICU stay. Her functional recovery and mobilization were remarkably good and comfortable.
**Conclusion:** The combination of two different regional analgesia techniques was successful and provided adequate postoperative techniques. Alteration from the initial surgical plan mandated the use of the PVB block.

## OP36 | CAUDAL EPIDURAL INJECTIONS FOR CHRONIC POSTSURGICAL LUMBAR PAIN IN AN ADOLESCENT

McCormac-Prekeze M.[1,2], Koutoulaki E.[1], Bartzi K.[1], Westzann N.[1], Konstantopoulos D.[1], Batsikoura I.[1], Gazelopoulou I.[1], Garini E.[1]
[1]*"Aghia Sofia" Children's Hospital, Athens, Greece;*
[2]*Konstantopouleion General Hospital, Athens, Greece*

**Background:** Approximately 28% of children and adolescents develop chronic postsurgical pain (CPSP) after major surgery. In spinal fusion, CPSP rates in teenagers reach 39%–100% at 3 months and 29%–68% at 6–12 months. Interventional procedures may serve as an effective treatment approach, when integrated into a multi-disciplinary care plan.
**Methods:** A 16-year-old female patient, with a normal BMI presented with lumbar pain at the level of the 4th lumbar vertebra. The pain had appeared several months ago, and had progressively worsened, leading to significant debilitation 1 week prior to presentation. The patient had a history of painful scoliosis, but no other chronic health issues or medications, and had undergone an uneventful posterior thoracolumbar interbody fusion (T3-L3) 2 years earlier. We proceeded with a caudal epidural injection under conscious sedation in the prone position under dynamic ultrasound guidance. A linear probe and an 80 mm hyperechoic needle were used. We slowly injected 30 mL of a solution consisting of ropivacaine 0.2%, dexamethasone 8 mg, and clonidine 1 μg/kg. Physical therapy was recommended to enhance the analgesic effect, but the patient did not comply. She remained free of pain for 2 weeks, after which point the pain gradually recurred, prompting a second visit to our pain service. A second caudal injection was performed, this time with a volume of 40 mL. Physical therapy was again recommended.
**Results:** The patient remained pain-free for 20 days following the second injection. Thereafter, the pain gradually returned. She declined further medical treatment, but began PT.
**Conclusion:** Our intervention offered only temporary relief, highlighting the need for a multi-disciplinary chronic pain treatment approach. Effective communication and collaboration between healthcare providers and adolescent patients and their guardians are essential in managing chronic pain. Family willingness to commit to a multi-disciplinary treatment is the first step towards successful treatment.

## OP37 | ERECTOR SPINAE PLANE BLOCK FOR OPIOID-FREE MASTECTOMY: A CASE-REPORT

McCormac-Prekeze M., Kolinioti A., Pentilas N., Mastrokosta E., Papastamatiou M.
*Konstantopouleion General Hospital, Athens, Greece*

**Background:** The erector spinae plane block (ESPB) was first described in 2016 for the treatment of chronic thoracic neuropathic pain and postoperative pain in thoracic surgery. Various applications of the ESPB in perioperative analgesia have since been investigated.
In breast surgery patients, both the thoracic ESPB (T-ESPB) and paravertebral block are proven to reduce postoperative opioid consumption. We report the successful application of the T-ESPB in a case of opioid-free mastectomy.
**Methods:** A female patient, 57, with a normal BMI and a smoking history of 30 pack-years, presented for mastectomy and reconstructive surgery due to unilateral multifocal breast cancer. She suffered from hypertension, for which she received treatment. Our anesthetic plan included general anesthesia and a T-ESP for perioperative analgesia. The unilateral T-ESPB was performed before induction of anesthesia, under dynamic ultrasound guidance, at the level of the fourth thoracic vertebral. The following solution was injected: 40 mL of ropivacaine 0.375%, 4 mg of dexamethasone, and 45 μg of dexmedetomidine. Total opioid-free intravenous anesthesia with continuous propofol and a bolus dose 50 μg of dexmedetomidine was administered. 1 g of acetaminophen and 50 mg of dexketoprofen were administered

at the beginning of surgery. 1 g of acetaminophen was repeated 6 h later.

**Results:** Our patient remained stable throughout the 7-h surgery, requiring no opioids. In the post-anesthesia care unit our patient reported feeling no pain at all. Adequate pain control during the first 24 h postopertively was achieved with 1 g of acetaminophen every 6 h. Our patient was discharged 2 days later.

**Conclusion:** The T-ESPB was safe and effective in providing perioperative analgesia for our patient's mastectomy and reconstructive surgery. Our case suggests potential for the T-ESPB to abolish perioperative opioid requirements in breast surgery, allowing for avoidance of the numerous opioid acute and chronic adverse effects.

## OP38 | INTRATHECAL SUFENTANIL VERSUS FENTANYL FOR CHRONIC NON – MALIGNANT PAIN

Zavridis P., Constantinou M., Demetriou S., Pavlides A.
*Cyprus Pain Clinic, Nicosia, Cyprus*

**Background:** Intrathecal pumps deliver medication directly into the spinal fluid, offering targeted pain relief with lower doses than systemic administration. Morphine is commonly used in this setting, but alternatives like fentanyl and sufentanil offer unique advantages. Sufentanil, though off-label, is a synthetic opioid more potent than fentanyl, with favorable pharmacokinetics for cases requiring high-dose titration and precise control. Fentanyl, while less potent, still provides effective analgesia. However, comparative clinical data are limited. The aim of this study is to directly compare the clinical effects of intrathecal morphine, fentanyl, and sufentanil in patients with non-malignant chronic pain.

**Methods:** This retrospective study reviewed 70 patients with non-malignant chronic pain treated via intrathecal pump at our outpatient clinic. Of these, 73% received morphine, 7% fentanyl, and 6% sufentanil; the remainder had baclofen. Sufentanil was reserved for four patients needing high concentrations and frequent dose adjustments due to opioid tolerance or pain complexity. Drug choice depended on clinical profile, pain type, and test dose response. We compared the three drugs based on pain intensity (VAS), tolerability, systemic opioid use, and functional improvement. Among sufentanil users, VAS scores were 7, 5, 5, and 3, averaging 5/10. All began on 5 mcg/day, with later titration.

**Results:** Both fentanyl and sufentanil effectively reduced pain, with sufentanil showing a faster response and greater reduction in systemic opioid need. While the differences were modest, sufentanil patients tended to experience quicker relief. Side effects were generally tolerable across both groups. Patients with mental health issues or high opioid tolerance saw less predictable results (Grider JS et al., 2011).

**Conclusion:** Opioid selection in intrathecal therapy influences outcomes in chronic pain. Sufentanil may offer advantages for patients requiring rapid onset or reduced systemic exposure. Personalizing drug choice based on patient profile enhances effectiveness and tolerability.

### REFERENCES

1. Grider, J.S., Harned, M.E. and Etscheidt, M.A., 2011. Patient selection and outcomes using intrathecal pain therapy in non-cancer pain: a retrospective review. *Pain Physician*, 14(4), 343–351.
2. Stearns, L.J., Narang, S., Albright, R.E. and Staats, P.S., 2005. Intrathecal drug delivery for the management of chronic pain: a review of morphine and fentanyl. *Pain Medicine*, 6(5), 319–334.
3. Yaksh, T.L. and Wallace, M.S., 2018. Intrathecal Drug Delivery for the Management of Pain: Basic Science and Clinical Applications. In: Benzon, H.T. et al. (eds.) Essentials of Pain Medicine. 4th ed. Elsevier, 217–227.
4. Hassenbusch, S.J. et al., 2002. Opioid therapy with intrathecal sufentanil for chronic intractable pain. *Neurosurgery*, 50(4), 749–755.

## OP39 | CHRONIC PELVIC PAIN SYNDROME(CPPS) AND ITS MULTIDIMENSIONAL TREATMENT

Ioannidis E., Sevastou S., Fragkouli I., Foteini M., Nikolopoulou M.Z., Grammenidis A., Kokolaki M.
*Sismanogleio General Hospital of Athens Department of Anesthesia and Pain Medicine, Athens, Greece*

**Objectives:** Pelvic pain encompasses a variety of symptoms and significantly affects a person's physical, emotional, and social well-being. Pain is deemed chronic if it persists for 6 months or longer.

**Methods:** We examined 18 patients, ASA I–II, ages 50–76. Of these, 10 were female, and the remaining 8 were male. The cause of the pain greatly varied: women (10): 2 cystitis, 3 endometriosis, 3 irritable bowel syndrome, 2 musculoskeletal diseases. Men (8): 3 ureteral stones, 3 prostatitis, 2 urinary tract infections. Each patient has been examined by a urologist, a general surgeon, and a gynecologist. The pain level in every patient was above 8 on the VAS scale. Pharmaceutical treatment included: Paracetamol 325 mg, Tramadol HCL 37.5 mg, Pregabalin 25 mg with titration up to 300 mg daily, Etoricoxib 90 mg, Duloxetine 30–60 mg. In addition, all patients underwent electroacupuncture sessions and physical exercises that promote relaxation and strengthening of the pelvic floor.

**Results:** Two weeks after the initial evaluation, 11 of the patients had an improvement with VAS < 6, while the rest, 7 of them, hadn't greatly improved, VAS > 8. The pharmaceutical treatment was readjusted, and in 5 individuals psychological interventions were encouraged. After 6 weeks, 14 patients reported a VAS 5–6 and 4 patients VAS < 4. New modifications took place in the medication regimen, and after 8 weeks from the beginning of the treatment, 12 patients reported VAS = 5 and 6 patients VAS < 3. In two cases with persistent pain Botulinum toxin injections were administered.

**Conclusions:** These incidents made it clear that a multimodal strategy is necessary for CPPS. Until results begin to show, treatment may take a long time and a lot of work from both the patient and the medical staff. The study is still ongoing.

## OP40 | WHEN THE MOUTH BURNS AND STANDARD TREATMENTS FAIL: ACUPUNCTURE IN REFRACTORY BURNING MOUTH SYNDROME

Karavis Y., Orfanou C., Theodosopoulou P., Tympa A., Peios D., Tsaroucha A.
*1st Department of Anesthesiology and Pain Medicine, Aretaieion University Hospital, National and Kapodistrian University of Athens, Athens, Greece*

**Background:** Burning Mouth Syndrome (BMS) is a chronic pain condition characterized by persistent intraoral burning sensations without observable lesions. Psychiatric comorbidities and neuropathic pain features are commonly present in patients with BMS, which often shows limited response to conventional pharmacological treatment.
**Methods:** We present the case of a 78-year-old male with a 3-year history of severe burning pain localized to the left buccal mucosa and tongue, refractory to multiple medication regimens including gabapentinoids, antidepressants, and opioids, some of which paradoxically exacerbated the reported symptoms. All dental, stomatological, and psychiatric evaluations failed to reveal a treatable cause. The only finding was geographic tongue, for which appropriate treatment was suggested, without clinical improvement. In the context of a multimodal management plan including topical clonazepam, alpha-lipoic acid, and cognitive-behavioral therapy (CBT), acupuncture emerged as the core intervention contributing to sustained symptom relief. Acupuncture treatment was initiated twice weekly, based on Traditional Chinese Medicine (TCM) principles, targeting systemic and local points associated with oral microcirculation and trigeminal modulation (ST 5, ST 6, ST 7, SI 18, GB 2, SJ 21).
**Results:** After eight 30-min acupuncture sessions, the patient reported progressive improvement. By week 8, the burning pain was almost fully resolved. No adverse events were reported. The patient remained pain-free at 6-month follow-up, with significant improvement in quality of life and mood.
**Conclusion:** Acupuncture may offer a safe and effective therapeutic alternative in cases of refractory BMS where pharmacological approaches have failed. This case supports the incorporation of acupuncture in multidisciplinary pain management pathways for complex oral neuropathic pain.

## OP41 | IBUPROFEN TO PREEMPTIVE MULTIMODAL ANALGESIA IN TOTAL KNEE ARTHROPLASTY: A DOUBLE-BLINDED RANDOMIZED STUDY

Papakitsos E.[1], Papakitsos G.[2]
*[1]Medical School, University of Thessaloniki, Thessaloniki, Greece; [2]Anaesthetic Department, General Hospital Arta, Arta, Greece*

**Background:** Preemptive multimodal analgesia is a frequently utilized method for controlling pain after total knee arthroplasty (TKA). So far, no studies have specifically examined the efficacy of adding ibuprofen to preemptive multimodal analgesia in TKA. The current study aimed to assess the efficacy of adding ibuprofen to preemptive multimodal analgesia for clinical pain management after TKA.
**Methods:** This was a double-blinded randomized study including 173 patients randomized to the ibuprofen and control groups, respectively. The ibuprofen group was administered ibuprofen at 300 mg, tramadol at 100 mg and acetaminophen at 1000 mg, 30 min before TKA. Control patients were administered tramadol, acetaminophen and placebo. The primary outcome was postsurgical use of morphine hydrochloride for rescue analgesia. Secondary outcomes included the time to the initial rescue analgesia, postsurgical pain as determined by a visual analogue scale (VAS), functional recovery as reflected by the range of knee motion and ambulation distance, hospitalization duration and complication rates. Continuous data with normal and skewed distributions were compared by the Student's $t$ test and the Mann–Whitney $U$ test, respectively. Categorical variables were compared by the Pearson's chi-squared test.
**Results:** The control and ibuprofen groups weren't comparable in postoperative 0–24 h morphine consumption ($12.2 \pm 5.8$ mg vs. $9.6 \pm 4.4$ mg, $p = 0.043$) and total morphine consumption ($18.2 \pm 6.3$ mg vs. $14.6 \pm 5.4$ mg, $p = 0.028$). By contrast, time to the initial rescue analgesia, postoperative VAS score at any time point, postoperative functional recovery of the knee and hospitalization duration were almost similar in both groups. Both groups also had similar occurrence rates of postoperative complications.
**Conclusion:** In this study, adding ibuprofen to preoperative preemptive multimodal analgesia decreased postoperative morphine use and ameliorated pain relief. The efficacy of adding ibuprofen to preemptive multimodal analgesia in TKA need to be further explored in future studies.

## OP42 | OUR EXPERIENCE WITH ACCIDENTAL INTRATHECAL MORPHINE ADMINISTRATION DURING TOTAL ABDOMINAL HYSTERECTOMY

Alexiadou N.[1], Mavros V.[1], Davi V.[1], Bimpika S.[1], Lamprianidou Z.[1], Papadimitriou S.[1], Gkourovanidis V.[2], Antonopoulou E.[1]
*[1]Department of Anesthesiology, General Hospital of Xanthi, Greece; [2]Gynaecology Department, General Hospital of Xanthi, Greece*

**Objective:** To present a case of accidental intrathecal administration of an overdose of morphine in a patient undergoing total abdominal hysterectomy and to describe the perioperative management and outcome.
**Materials and Methods:** A 53-year-old female patient, weighing 90 kg, with a history of arterial hypertension and type 2 diabetes mellitus, was scheduled for elective open abdominal hysterectomy. Spinal anesthesia was initially performed at the L3–L4 interspace using a solution intended to contain 0.15 mg of morphine diluted in 1–1.5 mL of normal saline.
Due to a dilution involving two 10 mL syringes with identical appearance, 1.5 mg of morphine was inadvertently administered intrathecally—a dose far exceeding the recommended maximum of 0.2 mg for this patient. The error was recognized by the anesthesiologist immediately after administration, upon realizing that both syringes remained on the preparation tray and that the high-concentration syringe had not been discarded.
General anesthesia was then induced using propofol, fentanyl (100 μg), and rocuronium, and maintained with volatile anesthetics and oxygen. The procedure lasted 98 min. Neuromuscular blockade was reversed and the patient was easily extubated

without the need for naloxone. She was transferred to the Post-Anesthesia Care Unit (PACU) for intensive monitoring over 6 h. Antiemetic prophylaxis was administered intravenously. Upon transfer to the ward, detailed written instructions were provided for close monitoring of $SpO_2$, respiratory rate, apnea episodes, sedation level (Ramsay scale), pain (VAS 0–10 at rest and with movement), nausea, vomiting, pruritus, and patient satisfaction. A naloxone syringe was prepared and kept at bedside, although continuous infusion was not initiated. The patient remained fully conscious and cooperative throughout.

**Results:** The patient exhibited no adverse effects, particularly no respiratory depression or reduced respiratory rate (< 8 breaths/min). VAS pain scores remained at 0 both at rest and with movement for the first 48 h. The first dose of analgesic was administered on postoperative day 3. No pruritus, nausea, or vomiting were observed. Patient satisfaction score was 10/10.

**Conclusion:** Intrathecal administration of morphine provides effective postoperative analgesia for total abdominal hysterectomy. However, it requires meticulous preparation of drug dilutions, strict adherence to protocols, intensive monitoring, and readiness to manage potential complications. This case highlights the importance of error recognition, rapid intervention, and comprehensive patient surveillance in ensuring a safe outcome despite a potentially serious medication error.

## BIBLIOGRAPHY

1. DeSousa, K. A., & Chandran, R. (2014). Intrathecal morphine for postoperative analgesia: Current trends. *World Journal of Anesthesiology*, 3(3), 191–202. https://doi.org/10.5313/wja.v3.i3.191.

2. Madrid Díaz GA, Carretero Pardo SA, Barrios Pinzón JA, Zuluaga Z AF, Parada Márquez JF. The impact of intrathecal morphine blended with general anesthesia on postoperative pain in patients undergoing hysterectomy: Scoping Review of the literature. *Rev Chil Anestesia*. 2025;54(1). https://doi.org/10.25237/revchilanestv54n1-05.

## OP43 | EFFECT OF PREOPERATIVE ANXIETY LEVEL ON POSTOPERATIVE PAIN, ANALGESIC CONSUMPTION IN PATIENTS UNDERGOING CARDIAC SURGERY

Papadima A.[1], Panagiotopoulos I.[2], Karamolegkou A.[1], Braimakis F.[1], Tsouma K.[1], Louizos A.[1]
*[1]Anesthesiology, Hippokrateio GH, Athens, Greece; [2]Cardiac Surgery, Hippokrateio GH, Athens, Greece*

**Objectives:** Patients undergoing cardiac surgery represent a challenge in terms of pain management due to multiple factors relating to the patients and to the procedure itself. Significant factors predicting greater sensitivity to postoperative pain from cardiac surgery include: experiencing preoperative pain, feeling anxiety, being younger, and being female. This prospective observational cohort study aimed to investigate the relationship between preoperative anxiety levels and postoperative pain and analgesic requirement in patients undergoing cardiac surgery.

**Methods:** 58 patients who underwent cardiac surgery were included in the study. After they had signed the informed consent form, the patients completed the Greek version of the State-Trait Anxiety Inventory (STAI). This is psychometric questionnaire comprises two scales measuring different facets of anxiety: state and trait anxiety. After their surgery, patients' pain was evaluated and monitored in the Cardiac Recovery Unit throughout the first 48 h post-surgery. Evaluation of postoperative pain was carried out once patients had been extubated and were able to verbalize their pain. The vNRS scale was used to measure their pain (0: no pain and 10: maximum pain). Pain intensity was recorded every 2 h in two daily shifts: morning (08:00 to 15:00), evening (15:00 to 22:00) and night (22:00 to 08:00). The protocol for managing cardiac surgery patients' postoperative pain at the Cardiac Recovery Unit offered two options based on medical criteria: Analgesic combination of 1 g of paracetamol every 8 h and 100 mg of tramadol every 8 h administered alternately. In addition, whenever patients expressed pain exceeding 4 on the vNRS scale, IV boluses containing 2 mg of morphine hydrochloride were administered as 'rescue doses'.

**Results:** There was no relationship between trait anxiety level and postoperative pain and analgesic consumption. A correlation was found between state anxiety level and pain level up to 24 h and analgesic consumption ($p < 0.05$). According to the obtained model it had been observed that the university graduates consumed more analgesic compared to other education level groups.

**Conclusions:** In this study, a relationship was found between preoperative state anxiety level and 24-h pain scores and analgesic consumption in patients who underwent cardiac surgery.

## OP44 | INTRAOPERATIVE DEXMEDETOMIDINE IMPROVES THE OUTCOME OF OFF – PUMP CORONARY ARTERY BYPASS SURGERY

Papadima A.[1], Panagiotopoulos I.[2], Karamolegkou A.[1], Tsouma K.[1], Monopatis O.[1], Triantafyllou M.[2]
*[1]Anesthesiology, Hippokrateio GH, Athens, Greece; [2]Cardiac Surgery, Hippokrateio GH, Athens, Greece*

**Objectives:** Dexmedetomidine is a highly selective α2-adrenergic agonist that produces sedative, analgesic, and sympatholytic properties and anti-inflammatory and organ protective effects. For patients undergoing isolated coronary artery bypass grafting (CABG), each postoperative complication, such as atrial fibrillation, prolonged ventilation, reoperation, renal failure, stroke and deep sternal wound infection, substantially increased the healthcare costs.[1] The aim of this study was to investigate the effects of perioperative use of Dexmedetomidine on outcomes for patients undergoing cardiac surgery.

**Methods:** After obtaining the local Institutional Review Board approval, all patients who underwent off pump coronary artery bypass from 1 January to 31 December, 2024 were entered into the study. This study was retrospective cohort study involving 161 consecutive patients. Perioperative Dexmedetomidine administration was defined as an intravenous infusion (0.25 to 0.6 $\mu g\,kg^{-1}\,h^{-1}$) initiated after cardiopulmonary bypass and continued for < 24 h postoperatively in the ICU. The infusion rate of Dexmedetomidine was adjusted according the patients' hemodynamic changes in response to stimulation. AII patients were divided into 2 groups: those who used Dexmedetomidine (D group; $n = 65$) and those who did not use Dexmedetomidine (ND group; $n = 96$) in surgery. The duration of intubation, the intensity of pain score, and theneed for more opioids after tracheal

extubation were evaluated every 4 h for 36 h. Numerical Rating Scale (NRS) was used to evaluate pain after extubation (0–1 no pain, 2–3 mild pain, 4–5 mild to moderate pain, 6–7 moderate pain, 8–9 moderate to severe pain, 10 severe pain).
**Results:** Patients in the D group had lower mean MAP and HR during extubation period than the ND group and needed fewer opioids ($p = 0.001$ and $p = 0.022$, respectively). The D group patients were extubated earlier ($p = 0.001$). After extubation, the D group had less pain than the ND group.
**Conclusions:** Perioperative dexmedetomidine use was associated with a decrease post-operative ventilation time, reduction of ICU length of stay, decreased incidence of postoperative complications and delirium in patients undergoing off–pump coronary artery bypass surgery.


**REFERENCE**
1. Oresanya LB, et al. *JAMA*. 2014;311:2110–2120.


## ORAL PRESENTATIONS V

### OP45 | INNOVATIVE APPROACHES TO ANALGESIC CARE IN PATIENTS WITH CHRONIC PAIN


Berintzi Ch.
*School of Medicine, School of Health Sciences, National and Kapodistrian University of Athens, Athens, Greece*


**Introduction:** Chronic pain burdens patients and undermines their functionality and daily life, while simultaneously challenging and perpetually driving medical science. It undoubtedly constitutes a field that requires continuous research and advancement, always with respect for human dignity, aiming to preserve functionality and, by extension, human dignity.
**Purpose:** The present study investigates and documents all innovative approaches in the analgesic care of patients with chronic pain through systematic literature review.
**Materials and Methods:** Searching the Google Scholar and Pubmed databases, relevant articles selected from the last 5 years (2019 to 2023) amount to 135 in total. They encompass findings recorded on the human body, while studies involving animals or still in progress, such as the discovery and exploration of molecular targets, are excluded from the research.
**Results:** The key findings demonstrate a plethora of new methods, including both invasive and non-invasive techniques, pharmaceuticals, psychological support, exercise, herbal products, sleep therapy, phototherapy, and other methods that will be discussed in detail later on. Technology, now with its own modern manifestations such as Virtual Reality, is penetrating the realm of palliative care. The goal is individualized patient management with a unique personal plan.
**Conclusions:** In conclusion, this study aims to highlight all the means and methods available today in the arsenal of palliative care for patients suffering from chronic pain. In closing, we emphasize the urgent need for continuous research and education of the respective medical team, with the ultimate goal of finding those suitable methods that will bring the long-awaited improvement or relief of chronic pain sensation, which may otherwise exclude the patient from an active personal and social life.

### OP46 | PREGABALIN AND CHRONIC LOW BACK PAIN


Vadalouca A.[1], Rekatsina M.[2]
*[1]Pain and Palliative Care Center, Athens Medical Center, Athens, Greece; [2]University of Athens, Athens Medical Center, Athens, Greece*


**Objective:** It is well known that CLBP has a neuropathic component in up to 37% of patients The aim of this study is to evaluate the therapeutic use of pregabalin in patients that suffer from chronic back pain with neuropathic origin.
**Method:** 126 patients suffering from CLBP were included in this retrospective study for a period of Jan 2023–Jan 2025. All patients were evaluated with clinical examination and the linguisting validated Greek version of DN4 questionaire in order to identify the neuropathic component. 46 of them, 19 men and 27 women had CLBP with a neuropathic origin. The average age was 65.8 y.o. Pain intensity was assesed with the Visual Analogue Scale and the health-status with the EQ-VAS. The study included patients who reported pain greater than VAS = 4 at the time of examination The patients had received Cox-2 inhibitors, combination of paracetamol with tramadol and PPI with insufficient analgesic results Pregabalin was added in a dose 25–600 mg and was given by careful titration in order to avoid side effects and depending by the age of the patient. Monitoring of the patients was done over the first and second week of treatment as well as recording of results was completed after the first month of treatment.
**Results:** As primary endpoint result was the reduction of pain intensity by a percentage of 30%.70 (55.5%) of our patients reached the primary endpoint within the first week, while an improvement of 60% was recorded within the first month of using pregabalin. The side effects reported were evaluated as light to moderate and were limited after the first 2–3 days. Important was the reported improvement in sleep quality in 90% of the cases while there was a general improvement in the evaluation of health status in all the patients.
**Conclusion:** By adding pregabalin to patients with chronic low back pain with neuropathic component, we can improve the analgesic effect and contribute to patient satisfaction considering the improvement in their health status.

### OP47 | PREGABALIN AS AN EFFECTIVE TREATMENT FOR POSTHERPETIC NEUROPATHIC PRURITUS: A CASE REPORT


Orfanou C., Rekatsina M., Mavromati M., Melemeni A., Peios D., Tsaroucha A.
*1st Department of Anesthesiology and Pain Medicine, Aretaieion University Hospital, National and Kapodistrian University of Athens, Athens, Greece*


**Background:** Postherpetic pruritus (PHP) is a neuropathic itch syndrome that can arise following resolution of herpes zoster, often localized to the same dermatomes affected by the rash. It is believed to result from injury or dysfunction in peripheral sensory neurons, accompanied by central sensitization mechanisms similar to those observed in postherpetic neuralgia. PHP may involve spontaneous firing of pruriceptive C-fibers, disinhibition of spinal itch pathways, and altered dorsal horn

processing. Given the shared neurobiological underpinnings with neuropathic pain, treatments targeting neuronal excitability, such as gabapentinoids, may offer clinical benefit.

**Methods:** We present the case of a 55-year-old woman referred to our pain clinic for severe pruritus localized to the right T6–T7 thoracic dermatome, developing 2 months after resolution of a herpes zoster rash. She described the itch as unbearable, interfering with sleep and daily functioning (NRS itch: 9–10), accompanied by alloknesis and reduced sensation to touch and temperature. Despite multiple dermatology consultations, antihistamine therapy, and acupuncture, there was no improvement. Upon referral to our pain clinic, pregabalin was introduced at 25 mg once daily and gradually titrated to 75 mg twice daily. In parallel, duloxetine was increased to 60 mg daily, primarily to address sleep disturbances associated with itch. Antihistamines were tapered and discontinued. The therapeutic plan included structured follow-up to assess tolerability and efficacy. The patient showed progressive and sustained improvement with each follow-up.

**Results:** Within 1 month, itch intensity was reduced to NRS 5, and by week 6, to NRS 0. The patient reported restored sleep, improved mood, and healing of scratch-induced skin lesions. Mild adverse effects (mild dizziness, drowsiness) were well tolerated.

**Conclusion:** This case highlights the utility of pregabalin in managing postherpetic neuropathic pruritus. Recognizing pruritus as a neuropathic symptom can lead to targeted and effective treatment, significantly improving patients' quality of life.

## OP48 | DIAGNOSTIC CHALLENGES BETWEEN PHANTOM TOOTH PAIN AND TRIGEMINAL NEURALGIA: A CASE REPORT

Botou P.[1], Kalopita K.[2], Makrypodi M.[3], Tsouma K.[1], Biniskou Th.[1], Karamolegkou A.[1], Papavassilopoulou Th.[1], Tsirtsiridou V.[1]

*[1]Department of Anaesthesiology and Pain Medicine, Hippocratio General Hospital of Athens, Athens, Greece; [2]Department of Anaesthesiology, Helena Venizelou General and Maternity Hospital, Athens, Greece; [3]Department of Anaesthesiology and Pain Medicine, Athens General Hospital "Georgios Gennimatas", Athens, Greece*

**Background:** This case report highlights the challenges in diagnosing phantom tooth pain (PTP), also referred as atypical odontalgia or persistent orodental pain. Phantom tooth pain is a deafferentation pain disorder defined by persistent toothache in teeth that have been denervated, or by pain in the sites of previously extracted teeth. Often misdiagnosed, it affects an estimated 3% of individuals undergoing pulpectomy, exhibiting similarities to phantom limb pain.

**Methods:** Case Report.

**Results:** A 46-year-old male reported constant, severe, electric-like pain in his upper first molar for a year. He was initially diagnosed with trigeminal neuralgia and received treatment with carbamazepine, which did not alleviate his symptoms. He complained the pain started 1 year earlier after the tooth's root canal treatment. Gabapentin, tramadol, and anti-inflammatory medications were administered with suboptimal outcomes. The pain spread to the entire zygoma, then described as continuous, dull, occasionally throbbing. It was typically absent during sleep but resumed after awakening. Percussion of the tooth did not affect the pain, with an absence of caries or trigger zones to elicit the pain. The pain was not affected by chewing, or yawning, and was not increased by muscle palpation, excluding myofascial pain. A diagnosis of trigeminal neuralgia was excluded based on the duration and characteristics of the pain. The treatment regimen included maintaining pregabalin at 75 mg twice daily and adding nortriptyline, as prescribed by a psychiatrist, at 10 mg once daily before bedtime. One month later, the dose was gradually increased to 25 mg, resulting in a moderate improvement in symptoms. At 1- and 3-month follow-up visits, the patient kept stable without relapse of pain.

**Conclusion:** This case report demonstrates that a multimodal and psychologically informed practice approach, tailored to the patient's characteristics, has contributed to improving his functional levels and allowing him to regain his previous quality of life.

### REFERENCES

1. Marbach JJ, Raphael KG. Phantom tooth pain: a new look at an old dilemma. *Pain Med*. 2000 Mar;1(1):68–77.

2. Marbach JJ. Is phantom tooth pain a deafferentation (neuropathic) syndrome? Part I: Evidence derived from pathophysiology and treatment. *Oral Surg Oral Med Oral Pathol*. 1993 Jan;75(1):95–105.

3. Battrum DE, Gutmann JL. Phantom tooth pain: a diagnosis of exclusion. *Int Endod J*. 1996 May;29(3):190–4.

## OP49 | INTRAVENOUS INFUSION OF LIDOCAINE ENHANCES THE EFFICACY OF CONVENTIONAL TREATMENT OF POSTHERPETIC NEURALGIA: TWO CASE REPORTS

Tsouma K.[1], Kalopita K.[2], Makrypodi M.[3], Botou P.[1], Biniskou Th.[1], Filippousi Ch.[1], Papavassilopoulou Th.[1], Tsirtsiridou V.[1]

*[1]Department of Anaesthesiology and Pain Medicine, Hippocratio General Hospital of Athens, Athens, Greece; [2]Department of Anaesthesiology, Helena Venizelou General and Maternity Hospital, Athens, Greece; [3]Department of Anaesthesiology and Pain Medicine, Athens General Hospital "Georgios Gennimatas", Athens, Greece*

**Background:** Most patients with postherpetic neuralgia (PHN) experience relief from pharmacological treatment, including carbamazepine, gabapentin, and pregabalin, either individually or in combination. Nevertheless, some patients continue to endure severe, unmanageable pain despite medication, or they may experience intolerable side effects from the medication requiring its discontinuation. While epidural steroid injections are employed for treating herpes zoster pain in the acute phase, their effectiveness on PHN is limited. Intravenous administration of lidocaine has been employed in the management of refractory neuropathic pain.

**Methods:** Two patients with herpes zoster neuritis and postherpetic neuralgia who visited our pain clinic between September 2023 and November 2025 were included. We included cases where immediate interventional therapy was not feasible, such as those involving antiplatelet/anticoagulant medications, or patients with herpes zoster/postherpetic neuralgia with an NRS score of 4+ who did not find medication relief. Patients were excluded if they had another pain syndrome affecting assessment, a history of cardiac arrhythmias or antiarrhythmic drug use, a resting heart rate under 50 bpm, or allergy to lidocaine.

We treated two patients with postherpetic neuralgia by using an intravenous infusion of 100 mg lidocaine for 1 h, once a week for 4 weeks. Pain intensity was assessed before and after each infusion, with breakthrough pain episodes in the past 24 h documented. Potential adverse reactions to intravenous lidocaine, such as nausea, vomiting, dizziness, arrhythmia, hallucinations, tremor, and hypotension, were also recorded.

**Results:** Both patients experienced sound pain relief after the lidocaine intravenous therapy. One patient experienced short and mild dizziness after the therapy, but no severe side effects were reported.

**Conclusion:** Intravenous administration of 100 mg lidocaine improved the results of PHN treatment and minimized the use of analgesics without significant adverse effects. The provided data are preliminary. Further randomized clinical trials with larger sample sizes and extended follow-up periods are essential to validate these findings.

## REFERENCES


1. Ma L, Li J, Zhou J, Zhang D, Xiao Z, Yu T, Li Y, Cao S. Intravenous lidocaine alleviates postherpetic neuralgia in rats via regulation of neuroinflammation of microglia and astrocytes. *iScience*. 2021 Jan 26;24(2):102108.
2. Wangnamthip S, Euasobhon P, Thiangtham K, Jirachaipitak S, Rushatamukayanunt P, Jensen MP. Long-term pain outcomes after serial lidocaine infusion in participants with recent onset of peripheral neuropathic pain: A pilot double-blind, randomized, placebo-controlled trial. *Medicine (Baltimore)*. 2024 May 24;103(21):e38253.
3. Lee JH, Koutalianos EP, Leimer EM, Bhullar RK, Argoff CE. Intravenous Lidocaine in Chronic Neuropathic Pain: A Systematic Review. *Clin J Pain*. 2022 Dec 1;38(12):739–748.


## OP50 | REFRAMING CHRONIC PAIN: A JOURNEY THROUGH SCIENCE, POLICY, AND COST


Kritikou P.[1], Siafaka I.[2], Vadalouca A.[2,3]

*[1]Rare Disease Consulting, Athens, Greece; [2]Hellenic Society of Pain Management and Palliative Care (PARH.SY.A.), Athens, Greece; [3]Pain & Palliative Care Center, Athens Medical Center, Athens, Greece*


**Background:** Chronic pain affects millions globally, with profound clinical, societal, and economic implications.[1] While anesthesiologists have spearheaded therapeutic advances, the evolving science and policy landscape demand a broader, integrated perspective. This presentation reframes chronic pain by exploring its historical trajectory and current role as a health economic and policy issue.

**Methods:** A structured PubMed review (19th century–2024) identified key milestones in chronic pain science alongside the evolution of economic evaluations, including burden-of-disease studies, cost-effectiveness analyses, and policy shifts.

**Results:** Until the 1950s, chronic pain was scarcely addressed in scientific literature. The 1960s introduced foundational studies on psychological factors and chronicity.[2] Recognition accelerated in the 1970s with the founding of the International Association for the Study of Pain (IASP)[3] and the rise of multidisciplinary pain clinics. The 1980s brought standardized assessment tools, while the 1990s marked the expansion of opioid use and the designation of pain as the "fifth vital sign".[4] In the 2000s, research began questioning opioid safety and effectiveness, leading to major policy changes in the 2010s, including the Centers For Disease Control and Prevention (CDC) prescribing guidelines favoring non-opioid therapies.[5] These scientific and clinical developments culminated in ICD-11's classification of "chronic primary pain."[6]

In parallel, economic research gained ground in the 1990s, initially measuring direct and productivity-related costs.[7] The 2000s introduced formal cost-effectiveness methodologies.[8] From 2010 onward, economic data influenced prescribing practices, reimbursement decisions, and health policy.[9] Since 2020, evaluations increasingly emphasize digital therapeutics, telehealth, multidisciplinary models, and equity-focused implementation costs.[10]

**Conclusions:** For anesthesiologists and pain professionals, applying a health economics lens is essential. As the field embraces value-based care, clinicians must interpret and engage with economic data. Chronic pain is no longer solely a clinical issue—it is a system-wide challenge demanding coordinated medical and economic strategies.

## REFERENCES


1. Maiarú M, Hollywood A, Trimboli M. Editorial: From bench to bedside: the challenge of chronic pain. *Front Pain Res (Lausanne)*. 2023 Aug 17;4:1271468. https://doi.org/10.3389/fpain.2023.1271468. PMID: 37663308; PMCID: PMC10470865.
2. Fordyce WE, Fowler RS, DeLateur B. An application of behavior modification technique to a problem of chronic pain. *Behav Res Ther*. 1968 Feb;6(1):105–7. https://doi.org/10.1016/0005-7967(68)90048-x. PMID: 5644753.
3. Wall PD. "Pain", the journal of the International Association for the Study of Pain. *Pain*. 1975 Mar;1(1):1–2. https://doi.org/10.1016/0304-3959(75)90002-0. PMID: 1235976.
4. Quality improvement guidelines for the treatment of acute pain and cancer pain. American Pain Society Quality of Care Committee. *JAMA*. 1995 Dec 20;274(23):1874–80. https://doi.org/10.1001/jama.1995.03530230060032. PMID: 7500539.
5. Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain—United States, 2016. *JAMA*. 2016 Apr 19;315(15):1624–45. https://doi.org/10.1001/jama.2016.1464. PMID: 26977696; PMCID: PMC6390846.
6. Nicholas M, Vlaeyen JWS, Rief W, Barke A, Aziz Q, Benoliel R, Cohen M, Evers S, Giamberardino MA, Goebel A, Korwisi B, Perrot S, Svensson P, Wang SJ, Treede RD; IASP Taskforce for the Classification of Chronic Pain. The IASP classification of chronic pain for ICD-11: chronic primary pain. *Pain*. 2019 Jan;160(1):28–37. https://doi.org/10.1097/j.pain.0000000000001390. PMID: 30586068.
7. Latham J, Davis BD. The socioeconomic impact of chronic pain. Disabil Rehabil. 1994 Jan-Mar;16(1):39–44. https://doi.org/10.3109/09638289409166435. PMID: 8136509.
8. Thomsen AB, Sørensen J, Sjøgren P, Eriksen J. Economic evaluation of multidisciplinary pain management in chronic pain patients: a qualitative systematic review. *J Pain Symptom Manage*. 2001 Aug;22(2):688–98. https://doi.org/10.1016/s0885-3924(01)00326-8. PMID: 11495715.
9. Gilron I, Johnson AP. Economics of chronic pain: How can science guide health policy? *Can J Anaesth*. 2010 Jun;57(6):530–8. https://doi.org/10.1007/s12630-010-9307-3. PMID: 20411445.
10. Zinboonyahgoon N, Saengsomsuan N, Chaikittiporn N, Wangnamthip S, Kositamongkol C, Phisalprapa P. Cost-Utility

and Cost-Effectiveness Analysis of Spinal Cord Stimulation for Chronic Refractory Pain in the Context of Developing Country. *Pain Physician*. 2023 Jan;26(1):69–79. PMID: 36791296.

## OP51 | MANAGEMENT OF TEN DIALYSIS PATIENTS WITH SPONDYLODISCITIS AT LIMASSOL GENERAL HOSPITAL (2020–2024)

Lekka N.[1], Kordalis N.[2], Ioannou K.[1], Charalambous N.[1], Konstantaki V.[1], Theodoulou G.[3], Gavra-Papaspyrou A.[1]
*[1]Anesthesiology Department and Pain Clinic, Limassol General Hospital, Cyprus; [2]Orthopedic Surgeon, Limassol, Cyprus; [3]Limassol General Hospital, Cyprus*

**Objectives:** This study describes ten dialysis patients from the Nephrology Clinic at Limassol General Hospital who presented with severe back pain, without any history of trauma. All patients had permanent central venous catheters for hemodialysis.
**Methods:** The study included ten ASA III/IV patients with a mean age of 74, all undergoing hemodialysis three times per week. Clinically, they exhibited significant vertebral tenderness, paravertebral muscle spasms, restricted mobility, and radiculopathy in three cases. All patients had fever, elevated C-reactive protein levels, and positive blood cultures. Treatment involved bed rest, intravenous antibiotics, and analgesic management with paracetamol 1 g three times daily, gabapentin 300 mg after each dialysis session, and transdermal fentanyl 25 μg/72 h.
**Results:** Three patients died within 10 days due to septic shock. The remaining patients showed clinical improvement and continued oral treatment. After 3 months, four patients were still receiving analgesics.
**Conclusions:** Acute spondylodiscitis typically presents with severe low back pain and less commonly as thoracic or cervical pain. In dialysis patients, central venous catheter colonization is a major source of bacterial infection. The associated pain is persistent, severe, and often challenging to manage. Neurological symptoms may occur in up to 20% of cases. Approximately 30% of patients present with fever and positive blood cultures. Mortality rates may reach 70% when spondylodiscitis is complicated by an abscess. Prompt MRI scanning is recommended for any dialysis patient reporting sudden spinal pain to ensure early diagnosis and treatment of pyogenic spondylodiscitis. Multidisciplinary collaboration among nephrologists, infectious disease specialists, orthopedic surgeons, and pain management experts is critical for optimal patient care.

## OP52 | INVISIBLE PAIN IN AN IMMUNOCOMPROMISED PATIENT: NEUROPATHIC THORACIC PAIN AND CUTANEOUS ALLODYNIA IN PNEUMOCYSTIS JIROVECII PNEUMONIA

Karamolegkou P. A., Avgerinou K., Mpakopoulos N., Filippousi Ch., Kouroukli Eir., Louizos A.
*Anesthesiology Department, GHA Hippocration, Athens, Greece*

**Backround:** Pain in critically ill immunocompromised patients is often underestimated, especially when presenting without structural lesions. This case explores the manifestation of neuropathic thoracic pain and cutaneous hypersensitivity in a patient with chronic hepatitis B under immunosuppression, who developed Pneumocystis jirovecii pneumonia and a flare of pityriasis versicolor.
**Case Description:** A 55-year-old male with chronic hepatitis B and long-term immunosuppressive treatment was admitted to the ICU due to respiratory failure. CT imaging revealed bilateral ground-glass opacities. Bronchoalveolar lavage confirmed Pneumocystis jirovecii infection. The patient had a known history of recurrent pityriasis versicolor, which reappeared during ICU stay on the chest and abdomen. On day 4, he developed a sharp, burning right-sided thoracic pain, described as "skin-on-fire", with associated cutaneous allodynia over the area of the skin lesions. No pleural effusion, rib injury, or muscle pathology was identified. Pain was resistant to intravenous opioids.
**Management:** A non-invasive multimodal approach was chosen due to the absence of anatomical lesions and the opioid-resistant nature of the pain. Gabapentin was initiated (300 mg TID), and a low-dose ketamine infusion (0.1 mg/kg/h) was administered for 48 h. Opioids were withdrawn. Skin care protocols were applied to reduce mechanical triggers over inflamed areas. Environmental optimization and patient reassurance were included to support neurocognitive modulation. Pain significantly improved without the need for interventional techniques (NRS from 9 to 3 within 4 days). Cutaneous allodynia subsided progressively.
**Conclusions:** This case highlights a rare presentation of neuropathic thoracic pain and cutaneous allodynia in an immunocompromised patient without structural lesions. It underscores the importance of recognizing neuroimmune pain patterns and achieving effective relief through non-invasive neuromodulatory strategies in the ICU.

## OP53 | HEREDITARY SENSORY NEUROPATHY PRESENTING AS FIBROMYALGIA: A CASE REPORT

Peios D.[1], Sidiropoulos C.[1], Tsaroucha A.[2], Ble C.[1], Kopatzidis I.[1], Kyriakidou A.[1], Cheva A.[3]
*[1]Functional Neurosurgery Department St Luce's Hospital, Panorama Thessaloniki Greece; [2]A Anaesthesiology Clinic, Aretaieio University Hospital, Athens Greece; [3]Laboratory of General Pathology and Pathological Anatomy, Aristotle University of Thessaloniki, Thessaloniki, Greece*

**Objectives:** We report a rare case of hereditary sensory neuropathy in a young adult male that was presented and treated as fibromyalgia.
**Methods:** This is a case of a 42 yo male firefighter that presented with continuously deteriorating pain and numbness in torso, hands and legs. The patient was first evaluated 4 years ago and after a colossal effort to identify the source of pain without having any positive diagnostic results was characterized as fibromyalgia. He was monitored by a psychiatrist and was receiving, apart from several antidepressants, extremely high doses of pregabalin reaching up to 1200 mg/daily. The patient was referred to us by the psychiatrist.
**Results:** No radiological, electrophysiological or other usual examination revealed any kind of specific condition. After careful assessment we proceeded with lumbar puncture, laboratory and genetic control, and also muscle biopsies. The results revealed an eterozygotic defect at the chromosomal region q13.1 at the long arm of chromosome 11 related to ATL3 gene. The muscle

biopsies revealed cellular neurogenic disorder. We confirmed the diagnosis of Hereditary Sensory Neuropathy type 1F (HSN1F).
**Conclusions:** Undiagnosed cases that can be idiopathic or are presented as a generalized condition like fibromyalgia, when the examination is not conclusive, especially in young age, should be tested for gene mutations and hereditary pain syndromes.

## OP54 | CHRISTMAS PERIOD IMPACT ON NON MALIGNANT CHRONIC PAIN PATIENTS

Douligeri A. Z., Papaioannou E., Fassos J., Kapsimalli I., Lampadariou A.
*"Laiko" General University Hospital Of Athens, Athens, Greece*

**Background and Aim:** Christmas period has been associated with deterioration in depression and anxiety disorders. Aim of this study was to investigate pain scores in patients suffering by chronic non malignant pain, during this particular time period.
**Methods:** After granted permission by hospital's Ethical Committee, a questionnaire was formed, including patients' diagnosis, medication, other physical conditions, history, clinical examination, demographics, and any possible recent traumatic experience that they might have suffered from. The questionnaire was filled in for every outpatient who visited hospital's pain clinic in the last 24 months. Records were kept about each patient's visits, phone contacts, pain score fluctuation, quality of life, and need for medication modifications. Patients were assigned to groups according to their age and family status, and recorded parameters comparison was made between everyday life and Christmas period.
**Results:** Records analysis demonstrated statistically significant ($p < 0.01$) increase in pain scores (+3.4 VAS, 65%–88% of patients), need in analgesic medication (45–126$), pain clinic visits (32%–76%), and pain clinic phone contacts (38%–86%). Most affected age groups were 55–64 (67%) and > 65 (89%), while among people living alone, in all age groups a significant increase in all recorded parameters was observed (23%–89%).
**Conclusions:** Based on the forementioned results, it seems that an increase in pain scores, in non malignant chronic pain patients is observed during Christmas period, especially, in elderly ones, living alone. Further studies are needed to support these findings.

# ORAL PRESENTATIONS VI

## OP55 | MANAGING CHRONIC NEUROPATHIC PAIN AFTER HERNIA SURGERY: A CASE STUDY

Gavra-Papaspyrou A.[1], Ioannou K.[1], Procopiou A.[2], Aggelidou M.[1], Ompolasvili N.[1], Lipsou E.[2], Lekka N.[1]
*[1]Anesthesiology Department and Pain Clinic, Limassol General Hospital, Limassol, Cyprus; [2]Limassol General Hospital, Limassol, Cyprus*

**Background:** A 51-year-old male patient presented to Limassol General Hospital with persistent and debilitating pain at the surgical site, 6 months after undergoing a second hernia repair (performed 2 years after the initial surgery). He reported continuous burning pain (VAS 6–7) accompanied by electric shock-like sensations. It is estimated that up to 30% of patients may experience persistent postoperative pain for up to 1 year, and some develop chronic pain, significantly impacting functionality and quality of life.
**Methods:** The patient had previously received a variety of analgesics, primarily tramadol, codeine, and NSAIDs. The surgeon had also performed several local site injections, all without meaningful relief. Given the severity of his symptoms, we initiated a gradual titration of pregabalin, reaching 450 mg daily. In addition, we performed an ultrasound-guided transversus abdominis plane (TAP) block, which included two rectus sheath blocks and one ilioinguinal nerve block (one block once per month). The blocks utilized 15 mL of 0.5% ropivacaine combined with 4 mg dexamethasone. Three months following this intervention, the patient reported significant improvement and was able to discontinue opioid therapy.
**Results:** Six months post-intervention, the patient reported sustained pain relief and continued exclusively on pregabalin therapy.
**Conclusion:** Chronic postoperative pain remains a significant clinical challenge. Employing surgical techniques that minimize nerve and tissue trauma, ensuring adequate management of acute postoperative pain, and adopting a multidisciplinary, individualized approach are essential strategies. Abdominal wall nerve blocks represent a promising modality in the treatment of chronic postoperative pain.

## OP56 | NEURAXIAL ANESTHESIA FOR CAESAREAN SECTION IN A PARTURIENT WITH MYELIN OLIGODENDROCYTE ANTIBODY ASSOCIATED DISEASE (MOGAD): A CASE REPORT

Lekka N.[1], Ivanoviene R.[1], Ioannou K.[1], Papachristos I.[1], Neofytou T.[2], Karakostas G.[2], Gavra-Papaspyrou A.[1]
*[1]Anesthesiology Department and Pain Clinic, Limassol General Hospital, Limassol, Cyprus; [2]Limassol General Hospital, Limassol, Cyprus*

**Background:** Myelin Oligodendrocyte Glycoprotein Antibody-Associated Disease (MOGAD) is a rare inflammatory disorder of the central nervous system. The condition involves autoimmune-mediated demyelination of nerve fibers in the optic nerves, brain, and spinal cord, leading to neurological impairment.
**Case Presentation:** A 34-year-old parturient at 34 weeks of gestation, with a body mass index of 49, was admitted for a scheduled caesarean section. Her medical history included MOGAD, bilateral keratoconus, diabetes mellitus, and vocal cord papilloma. She had experienced symptoms of myelopathy in 2019, which were treated with corticosteroids. Her current medication regimen included prednisolone 20 mg daily, aspirin 75 mg, metformin, and enoxaparin 0.6 IU daily. Preoperative evaluations were conducted by a multidisciplinary team including a neurologist, ophthalmologist, ENT specialist, and anaesthesiologist. Her neurological status was carefully documented.
In the operating room, the patient was connected to standard monitoring. Equipment for general anaesthesia was prepared in advance. With the consent of both the neurologist and the patient, an attempt at neuraxial anaesthesia was made. Spinal anaesthesia was successfully administered using a 25G pencil-point needle (120 mm) with 12 mg of 0.5% hyperbaric bupivacaine and 15 μg of fentanyl. The patient remained hemodynamically stable throughout the procedure. Postoperatively, the patient was

monitored in the post-anaesthesia care unit (PACU) for 60 min before being transferred to the obstetric ward.
**Results:** The postoperative period was uneventful, and the patient was discharged 6 days later in stable condition.
**Conclusions:** Managing high-risk pregnancies such as those involving MOGAD requires a multidisciplinary approach to minimize maternal and neonatal complications. The primary anaesthetic challenge lies in selecting the most appropriate technique, as both neuraxial and general anaesthesia have been associated with potential relapse. Given the limited number of published reports, anesthetic plans should be individualized based on risk-benefit analysis and informed patient consent.

## OP57 | PECS BLOCK FOR THE MANAGEMENT OF POST THORACOTOMY CHRONIC PAIN – A CASE STUDY

Gavra-Papaspyrou A.[1], Ioannou K.[2], Siakallis K.[1], Stylianou M.[2], Kyriacou V.[2], Lekka N.[1]
*[1]Anesthesiology Department and Pain Clinic, Limassol General Hospital, Limassol, Cyprus; [2]Limassol General Hospital, Limassol, Cyprus*

**Background:** A 47-year-old female patient presented to the outpatient department of Limassol General Hospital 5 months after undergoing a right thoracotomy. She reported severe pain (VAS 8–9) localized at the surgical site and radiating to the right anterior thoracic region. Clinical symptoms included allodynia, hyperalgesia, and a persistent burning sensation, significantly impairing her sleep and overall quality of life. This case study aims to underscore the complexities in managing post-thoracotomy chronic pain.
**Methods:** The patient was initially managed with tramadol, pregabalin, paracetamol, and NSAIDs, alongside physiotherapy sessions. However, the outcomes were suboptimal. Subsequently, we optimized the analgesic regimen (adjusting opioids and pregabalin), which led to mild improvement. Additionally, we performed ultrasound-guided PECS I and PECS II peripheral nerve blocks, administering 25 mL of ropivacaine 0.2% and 40 mg of methylprednisolone.
**Results:** The nerve block was successful, with the patient reporting progressive improvement in both allodynia and hyperalgesia. She continued pregabalin therapy and was able to discontinue opioid use. Although a follow-up block was scheduled, it has not been necessary to date.
**Conclusion:** Chronic postoperative pain is a frequent and debilitating complication that can severely impact patients' quality of life. Early diagnosis and a multidisciplinary approach are critical for effective management. Interventional techniques such as the PECS block offer valuable options for improving patient outcomes in cases of refractory post-thoracotomy pain.

## OP58 | A COMPARATIVE STUDY OF SPINAL 2% LIDOCAINE: 50 MG VERSUS 60 MG FOR TRANSURETHRAL RESECTION OF BLADDER TUMOR

Filippousi C., Christodoulou A., Panagoula E., Avgerinou K., Tomara E., Kypraiou T.
*Department of Anesthesiology and Pain Medicine, Hippokration General Hospital of Athens, Athens, Greece*

**Background and Aim:** Lidocaine is an amino-amide local anesthetic commonly used for spinal anesthesia in short urological procedures. This study aimed to compare two dosing regimens (50 and 60 mg) of intrathecally administered 2% lidocaine.
**Methods:** Forty ASA I-III patients were scheduled for elective thansurethral resection of bladder tumor (TUR-BT) under spinal anesthesia. They were radomly allocated into two groups: Group A ($n=20$) received 2.5 mL and Group B ($n=20$) received 3 mL of 2% lidocaine. Sensory and motor blockades were evaluated using pinprick test and modified Bromage score, respectivelly. The primary outcome was the duration of spinal blockage between thw two dosing regiments.
**Results:** Intergroup differences were insignificant regarding age, sex, BMI and duration of the operation. Hypotention or bradycardia were successfully managed, without complications. The following table summarizes the results.

| | | Group A ($n=20$) | | Group B ($n=20$) | |
|---|---|---|---|---|---|
| Time till Sensory Blockage (min) | Time till Motor Blockage (min) | 5 ± 2 | 7 ± 3 | 4 ± 1 | 6 ± 2 |
| Duration of Sensory Blockage (min) | | 73 ± 12 | | 101 ± 11 | |
| Duration of Motor Blockage (min) | | 53 ± 6 | | 52 ± 6 | |
| Time to Complete Regression of Sensory Blockage (min) | | 20 ± 4 | | 20 ± 6 | |
| Time to Complete Regression of Motor Blockage (min) | | 17 ± 3 | | 31 ± 11 | |

**Conclusion:** Our study demonstrates that both dosing regimens of intrathecal 2% lidocaine provide effective sensory and motor blockades, without significant ECG alterations, central nervous system toxicity or other serious adverse events. Our findings support the use of lidocaine as a reliable spinal anesthetic agent for short urological procedures or other minor surgical interventions. The optimal dose should be individualized to the expected surgical duration and patient characteristics.

## OP59 | EPIDURAL SPACE APPROACH IN PATIENTS WITH DEGENERATIVE CHANGES: MEDIAN VERSUS PARAMEDIAN TECHNIQUE

Filippousi C., Karamolegkou A., Bakopoulos N., Georgitsogiannakos P., Kypraiou T., Papastamou M.
*Department of Anesthesiology and Pain Medicine, Hippokration General Hospital of Athens, Athens, Greece*

**Background and Aim:** Epidural space approach is frequently used today for either anesthetic or analgesic purposes. This technique is known to be challenging in patients with anatomical diversities (scoliosis, kyphosis) and degenerative changes of the spine. This study compares the efficacy of two different

techniques of approach of the epidural space (median vs. paramedian), in patients with degenerative changes of the lumbar spine.

**Methods:** We studied 113 patients, ASA I-III, scheduled for elective lower abdominal or urological surgery under combined general anesthesia and epidural analgesia. Patients were randomly assigned to receive epidural catheterization via either a median (Group M, $n=56$) or paramedian (Group P, $n=57$) approach. The primary outcome was the number of attempts required for successful epidural catheter placement. The secondary outcome was the overall success rate. If three attempts failed with the initial approach, the alternative technique was performed.

**Results:** Both groups were comparable in respect of demographic data. The table below presents the results:

| | 1st attempt | 2nd attempt | 3rd attempt |
|---|---|---|---|
| Group M (%), $n=56$ | 34 (61%) | 11 (20%) | 4 (7%) |
| Group P (%), $n=57$ | 48 (84%) | 6 (10.5%) | 3 (5.5%) |

In 7 group M patients with 3 unsuccessful median attempts, the epidural space was found using the paramedian approach within two attempts. Catheter insertion was uneventful in all cases. No complications such as dural puncture, post-dural puncture headache, or paresthesia were observed.

**Conclusion:** The paramedian approach demonstrated greater efficacy and reliability compared to the median technique in patients with lumbar spine degenerative changes, suggesting it may be the preferred method in such cases.

## OP60 | ANALGESIA USING EPIDURAL ROPIVACAINE, KETAMINE AND DEXMEDETOMIDINE IN ESOPHAGECTOMY: A CASE REPORT

Filippousi C., Christodoulou A., Soulima N., Bakopoulos N., Georgitsogiannakos P., Louizos A.
*Department of Anesthesiology and Pain Medicine, Hippokration General Hospital of Athens, Athens, Greece*

**Background and Aim:** Major thoracic surgeries require effective perioperative analgesia to enhance postoperative recover while minimizing opioid use and associated adverse events. We report a case of multimodal epidural analgesia during esophagectomy. The aim was to evaluate the efficacy and duration of this combination and the timing of subsequent epidural morphine.

**Methods:** A 66-year-old male patient with esophageal cancer underwent laparoscopic Ivor – Lewis esophagectomy under combined general and epidural anesthesia. An epidural catheter was placed at T7-T8 level preoperatively. Ropivacaine 23 mg (administered at 08:45, 11:50, 14:45), dexmedetomidine 25 μg (at 13:00), and ketamine 25 mg (at 13:00) were given epidurally. Except for 1 g paracetamol administered intravenously 30 min before the end of the surgery, no additional analgesic factor was used epidurally or systemically. General anesthesia was achieved with 2% sevoflurane (MAC 0.8 – 1.0). The procedure lasted 7.5 h. Postoperatively, the patient was transferred to the High Dependency Unit (HDU) for close monitoring (ECG, MAP, $spO_2$). Pain was assessed using Visual Analogue Scale (VAS) and clinical parameters.

**Results:** The patient was hemodynamically stable during the surgery and reported no pain in the immediate postoperative period. VAS Scores remained consistently below 4 for the first 12 h postoperatively. At the 18-h mark, the patient reported a VAS score of 7, describing the pain as tolerable. A prophylactic dose of 2 mg epidural morphine was then administered, resulting in improved comfort. No adverse events such as sedation, hypotension or bradycardia were observed.

**Conclusion:** This case suggests that intraoperative epidural administration of ropivacaine combined with low doses of ketamine and dexmedetomidine provides prolonged and effective analgesia. This combination appears to be safe and delays the need of rescue opioids. Further investigation in larger cohorts is warranted.

## OP61 | FAST OR LASTING? INTRATHECAL CHLOROPROCAINE 1% VERSUS ROPIVACAINE 0.75% FOR ELECTIVE CESAREAN SECTIONS

Mavromati M., Orfanou C., Koutalas I., Rekatsina M., Theodoraki K.
*Aretaieion Hospital, National and Kapodistrian University of Athens, Anesthesiology, Athens, Greece*

**Background:** Spinal anesthesia is the preferred method for elective cesarean sections due to its safety and efficacy profile. While ropivacaine is used widely in Greece, recent developments in preservative-free formulations of chloroprocaine have revived interest in its spinal application. This study aimed to compare the onset, duration, and safety profile of spinal chloroprocaine 1% versus ropivacaine 0.75% in women undergoing elective cesarean section.

**Methods:** A prospective, randomized, single-blind study compares the effect of an intrathecal fixed dose of chloroprocaine versus an intrathecal fixed dose of ropivacaine in ASA I-II parturients subjected to elective cesarean section under combined spinal-epidural anesthesia. Participants were allocated to group C, receiving 3.8 mL chloroprocaine 1% plus 10 μg fentanyl, and group R, receiving 1.8 mL ropivacaine 0.75% plus 10 μg fentanyl via the spinal route. The primary endpoints of this study include the onset and duration of sensory and motor blockade following intrathecal administration of either chloroprocaine or ropivacaine. Data collected also included sensory and motor block characteristics, hemodynamic parameters, pain levels at various stages of surgery and postoperatively, neonatal outcomes (Apgar scores and umbilical cord blood gases), and maternal side effects.

**Results:** The required time to achieve a T4 sensory block or a full motor block (Bromage 3) was no different between groups ($p=0.459$ and 0.360, respectively). However, group C presented with a significantly shorter sensory block duration ($84.5\pm15.6$ vs. $124.8\pm14.6$, $p<0.001$) as well as motor block duration ($71.5\pm13.1$ vs. $96.3\pm20.7$, $p<0.001$). Other outcomes were comparable.

**Conclusions:** Preliminary findings suggest that spinal chloroprocaine provides a faster recovery profile compared to ropivacaine, with comparable safety outcomes for both the mother

and neonate. These characteristics may render chloroprocaine a viable alternative in obstetric anesthesia, particularly in settings requiring rapid block offset and quick mobilization of the parturient.

## OP62 | INTRATHECAL NALBUPHINE WITH LEVOBUPIVACAINE FOR SPINAL ANESTHESIA IN TOTAL HIP ARTHROPLASTY: A PATH TO BETTER POSTOPERATIVE ANALGESIA

Bontozis A.[1], Papageorgiou M.[1], Pikasi I.[1], Tileli M.[1], Tsagkaris M.[1], Xanthos T.[2], Makris A.[1]
*[1]Anaesthesiology Department, Asklepieion Voulas General Hospital, Athens, Greece; [2]National and Kapodistrian University of Athens, Medical School, Athens, Greece*

**Background:** Spinal anesthesia is the most widely used and effective anesthesia technique for total hip arthroplasty (THA). Local anesthetic agents can be combined with adjuvants to improve analgesic quality and duration. We hypothesized that intrathecal nalbuphine, added to levobupivacaine, would enhance intraoperative and postoperative analgesia.
**Methods:** After informed consent, 60 patients, aged 18–80 years, scheduled for THA, were randomized into two groups. Group N ($n = 30$) received 3.2 mL of 0.5% levobupivacaine with 0.4 mg nalbuphine intrathecally, while Group L ($n = 30$) received plain 3.2 mL levobupivacaine 0.5%. Exclusion criteria included ASA score > III, BMI > 40, severe psychiatric or cognitive disorders, and allergies to study drugs. The anesthesia team was the same throughout the study, and both patients and evaluators were blinded to group allocation. All patients received 1 g paracetamol intraoperatively, continued every 6 h postoperatively, and a pericapsular nerve group (PENG) block. The primary outcome was acute postoperative pain, assessed by total morphine use within the first 24 h.
**Results:** Morphine consumption at 6, 12 and 24 h was significantly higher in group L ($p < 0.001$). At all time points, the NRS score at rest and at motion was significantly greater in group L ($p < 0.001$). The duration of both sensory and motor blockade were significantly higher in the group N ($p < 0.001$). The incidence of hypotension was lower in group N.

**Table I.** Morphine administration, by group

| | Group | | | | P |
|---|---|---|---|---|---|
| | Levobupivacaine | | Levobupivacaine+Nalbuphine | | |
| Morphine PCA(ml)(1mg/ml) | Mean(SD) | Median (IQR) | Mean(SD) | Median (IQR) | |
| 6h | 3.07 (0.87) | 3 (2 – 4) | 0.27 (0.45) | 0 (0 – 1) | <0.001[1] |
| 12h | 5.07 (1.2) | 5 (4 – 6) | 1.8 (0.76) | 2 (1 – 2) | <0.001[1] |
| 24h | 7 (1.44) | 7 (6 – 8) | 2.67 (0.71) | 3 (2 – 3) | <0.001[1] |
| Change from 6h to 24h | 3.93 (0.94) | 4 (3 – 5) | 2.4 (0.62) | 2 (2 – 3) | <0.001[3] |
| P[2] | <0.001 | | <0.001 | | |

[1]p-value for group comparisons; [2]p-value for time comparisons; [3]p-value via repeated measures ANOVA for comparing the change between the 2 groups (after logarithmic transformation)

**Table II.** NRS scores, by group

| | | Group | | | | P |
|---|---|---|---|---|---|---|
| | | Levobupivacaine | | Levobupivacaine+Nalbuphine | | |
| | | Mean(SD) | Median (IQR) | Mean(SD) | Median (IQR) | |
| NRS at rest | 4h | 4.13 (1.04) | 4 (3 – 5) | 0.8 (0.76) | 1 (0 – 1) | <0.001[1] |
| | 6h | 4.53 (0.73) | 4 (4 – 5) | 1.2 (1) | 1 (0 – 2) | <0.001[1] |
| | 12h | 4.2 (0.66) | 4 (4 – 5) | 2 (0.53) | 2 (2 – 2) | <0.001[1] |
| | 24h | 4.53 (0.97) | 4 (4 – 5) | 1.8 (0.76) | 2 (1 – 2) | <0.001[1] |
| | 48h | 3.53 (0.73) | 4 (3 – 4) | 1.13 (0.63) | 1 (1 – 2) | <0.001[1] |
| | Change from 4h to 48h | -0.6 (1.43) | -1 (-2 – 1) | 0.33 (0.96) | 0 (0 – 1) | <0.001[3] |
| | P[2] | <0.001 | | <0.001 | | |
| NRS at motion | 4h | 7.13 (0.9) | 7 (7 – 8) | 3.87 (0.97) | 4 (3 – 5) | <0.001[1] |
| | 6h | 7.4 (0.62) | 7 (7 – 8) | 4.2 (0.92) | 4 (3 – 5) | <0.001[1] |
| | 12h | 6.73 (0.94) | 7 (6 – 8) | 4.4 (0.5) | 4 (4 – 5) | <0.001[1] |
| | 24h | 5.4 (0.81) | 5 (5 – 6) | 3.6 (0.72) | 3 (3 – 4) | <0.001[1] |
| | 48h | 4.67 (0.48) | 5 (4 – 5) | 2.93 (0.58) | 3 (3 – 3) | <0.001[1] |
| | Change from 4h to 48h | -2.47 (0.97) | -3 (-3 – -2) | -0.93 (0.87) | -1 (-2 – 0) | <0.001[3] |
| | P[2] | <0.001 | | <0.001 | | |

[1]p-value for group comparisons; [2]p-value for time comparisons; [3]p-value via repeated measures ANOVA for comparing the change between the 2 groups (after logarithmic transformation)

**Conclusion:** Nalbuphine as an adjuvant in spinal anesthesia seems to be a safe and effective intrathecal aduvant, reducing postoperative pain and opiod consumption in patients udergoing THA.

## OP63 | MANAGEMENT OF CHRONIC PAIN DUE TO THORACIC OUTLET SYNDROME USING REGIONAL ANAESTHESIA

Tsapara V., Varveri M., Sifaki F., Zografidou P., Koraki E.
*Anesthesiology department, General Hospital "Papageorgiou", Thessaloniki, Greece*

**Objective:** Clinical presentation and successful management of a patient presenting with chronic pain, due to Thoracic Outlet Syndrome caused by fibrotic and enlarged left anterior scalene muscle.
**Case:** A 50-year-old patient presented to our pain clinic with pain at the region innervated by the left ulnar nerve, cervical pain, paraesthesia and muscle weakness of the left upper limb. The MRI depicted an oedematous and fibrous left anterior scalene muscle compressing the brachial plexus at C7 level. Pregabalin and dexamethasone administration for 3 months had little to no effect and subsequently, the combination of gabapentin and tapentadol along with vitamins B1, B6, B12 and lidocaine patches were prescribed, but poorly tolerated by the patient. After the performance of an ultrasound guided intrascalene injection of 4 mL of Ropivacaine 0.2% and a corticosteroid, the pain relief was immediate and the NRS reduced from 8/10 to 4/10. After the application of capsaicin patches twice, the NRS score was reported to be 1/10 and lasted for at least 1 year later.
**Conclusion:** This case describes the contribution of regional anaesthesia to the successful, multimodal management of chronic pain due to Thoracic Outlet Syndrome, when conventional pharmacologic therapy has failed.

## OP64 | ADDUCTOR CANAL BLOCK WITH LOCAL INFILTRATION VS ADDUCTOR CANAL BLOCK AND IPACK BLOCK FOR POSTOPERATIVE ANALGESIA IN TOTAL KNEE ARTHROPLASTY: A PILOT CLINICAL STUDY

Ntagkas C., Micha G., Izountouemoi G., Samara E., Karakosta A., Tzimas P.
*Department of Anesthesiology and Postoperative Intensive Care, University General Hospital of Ioannina, Ioannina, Greece*

**Objectives:** Total knee arthroplasty (TKA) is frequently associated with significant postoperative pain. According to the current guidelines, the adductor canal block (ACB) in combination with local infiltration analgesia (LIA) are recommended. More recently, the Infiltration between the Popliteal Artery and the Capsule of the posterior Knee (IPACK) block has emerged as a regional anesthesia technique that may also have a valuable role within multimodal analgesia protocols in patients undergoing TKA. This pilot clinical study was conducted to evaluate the efficacy of the IPACK block, focusing primarily on postoperative analgesia and opioid consumption and secondarily on other patient-related outcomes, such as the incidence of postoperative complications and overall patient satisfaction.
**Methods:** A total of 20 patients undergoing total knee arthroplasty under spinal anesthesia were included in this pilot study and randomly divided into two groups of 10. In the control group, ACB and LIA were performed, while in the intervention group, ACB was combined with the IPACK block. Postoperatively, pain at rest and during movement was assessed at 24 and 48 h, along with opioid consumption during the first 48 h, the incidence of postoperative complications, and patient satisfaction.
**Results:** Although pain scores were consistently lower in the IPACK group, the differences were not statistically significant ($p > 0.05$). However, morphine consumption was significantly lower in the IPACK group [$9.91 \pm 2.8$ mg vs. $14.24 \pm 3.94$ mg; $p = 0.011$]. No significant differences were observed between groups in terms of postoperative adverse events and patient satisfaction ($p > 0.05$).
**Conclusions:** The implementation of the IPACK block appears to have a valuable role within preemptive multimodal analgesia protocols, as it provides highly satisfactory analgesic outcomes and is associated with reduced opioid consumption compared to the standard postoperative analgesia protocol recommended by current guidelines.

# ORAL PRESENTATIONS VI

## OP65 | ACUPUNCTURE AS AN INTEGRATIVE APPROACH FOR CHRONIC VISCERAL PAIN IN A PEDIATRIC PATIENT WITH REFRACTORY ABDOMINAL SYMPTOMS

Karavis Y.[1], Armakola F.[2], Filos K.[3], Tsaroucha A.[1]
*[1]Department of Anesthesiology, Aretaieion Hospital, Athens, Greece; [2]Department of Rehabilitation Medicine, Aglaia Kyriakou Children's Hospital, Athens, Greece; [3]Department of Pediatric Surgery, Aglaia Kyriakou Children's Hospital, Athens, Greece*

**Background:** A 14-year-old female presented with intractable nausea, vomiting, and severe epigastric pain. Initial investigations suggested superior mesenteric artery (SMA) syndrome, leading to surgical decompression. Despite technically successful intervention, symptoms persisted unabated. A second diagnostic laparoscopy yielded no abnormal findings, and extensive gastrointestinal evaluations at a tertiary center excluded structural or inflammatory pathology.
**Methods:** With both surgical and pharmacological approaches—including continuous intravenous nalbuphine—proving insufficient, the patient was referred for integrative management. Acupuncture was initiated using a systemic protocol typically employed for widespread somatic pain, tailored in this case to prioritize the modulation of visceral pain. Point selection aimed to influence central pain processing and autonomic function, reduce sympathetic overdrive, and promote parasympathetic tone.
**Results:** The patient continues to experience ongoing visceral-peristaltic pain, characterized by rhythmic exacerbations approximately every 5 min, accompanied by intermittent vomiting. Introduction of acupuncture has resulted in a modest but clinically meaningful reduction in pain severity during exacerbation

peaks, with improved overall symptom tolerability. Treatment is ongoing, and the acupuncture protocol is dynamically adjusted in response to evolving clinical feedback.

**Conclusion:** This case underscores the complexity of diagnosing and treating chronic abdominal pain in pediatric patients, particularly when conventional interventions fail to yield results. Acupuncture, when applied within a structured systemic framework and directed specifically at visceral pain mechanisms, may offer a valuable adjunct in the management of treatment-resistant functional abdominal pain. The integration of acupuncture into multidisciplinary care represents a promising avenue for improving outcomes in this challenging patient population.

## OP66 | GENETIC PREDICTORS OF ANALGESIC RESPONSE TO ACUPUNCTURE: A SYSTEMATIC REVIEW OF THEIR ROLE IN PREDICTING RESPONSE TO ACUPUNCTURE

Theodosopoulou P.[1], Karavis Y.[1], Theodoraki K.[1], Tsaroucha A.[1], Karavis M.[2], Rekatsina M.[1]
*[1]Department of Anesthesiology, Aretaieion Hospital, Athens, Greece; [2]Rehabilitation Medicine, Athens, Greece*

**Objective:** This systematic review aimed to identify genetic variants that influence individual responsiveness to acupuncture and to investigate the underlying biological mechanisms across both health and disease conditions.

**Methods:** A comprehensive search was conducted in December 2024 using four electronic databases: PubMed, Cochrane Library, Scopus, and ScienceDirect. Studies included in the review assessed the relationship between genetic polymorphisms and responses to different forms of acupuncture—manual (MA), electroacupuncture (EA), or auricular (AA). The methodological quality of the selected studies was evaluated using the Cochrane risk-of-bias tool and the STRICTA (Standards for Reporting Interventions in Controlled Trials of Acupuncture) checklist.

**Results:** Eight studies met the inclusion criteria, with five being secondary analyses of existing randomized controlled trials. The genetic markers examined were involved in key physiological pathways, including neurotransmission (COMT, ADORA1, DRD2A2), thermoregulation (TRPV1), and immune/inflammatory response (TCL1A, IL1A, HTR1A, NfkB). Findings suggest that the effectiveness of acupuncture may depend on genetic profiles that correspond to the specific pathophysiology of the condition being treated. Thus, genetic variation appears to influence acupuncture outcomes in a condition-specific manner.

**Conclusion:** Further research is needed with larger sample sizes, rigorous sham-controlled methodologies, and consistent outcome measures. Future studies should also include responder analyses to clarify how genetic differences affect treatment response and to support the development of personalized acupuncture therapies.

## OP67 | MUSIC THERAPY IN PALLIATIVE CARE FOR BREAST CANCER PATIENTS: A SYSTEMATIC REVIEW

Karamolegkou P. A.[1], Mpareka M.[2], Arnaoutoglou E.[2]
*[1]Anesthesiology Department, GHA Hippocration, Athens, Greece; [2]University Hospital of Larissa, Faculty of Medicine, University of Thessaly, Larissa, Greece*

**Background:** Breast cancer remains one of the most prevalent malignancies globally, with patients often experiencing not only physical symptoms but also psychological burdens such as anxiety, depression, and chronic pain. Palliative care emphasizes a holistic approach, aiming to alleviate suffering across physical, emotional, and spiritual dimensions. Music therapy has emerged as a promising, non pharmacological intervention that addresses these multidimensional needs, especially in advanced cancer settings.

**Methods:** A systematic review was conducted in accordance with PRISMA guidelines. Searches were performed in PubMed, Cochrane Library, and Scopus databases, excluding systematic reviews and focusing on randomized controlled trials (RCTs) published between 2000 and 2024. Eligibility criteria included studies involving breast cancer patients receiving palliative care and employing music therapy interventions. The methodological quality of the included RCTs was assessed using the Cochrane Risk of Bias Tool.

**Results:** Twelve randomized controlled trials involving a total of 980 breast cancer patients receiving palliative care were included. The interventions ranged from brief, single-session music therapy to structured programs lasting several weeks. Across the studies, music therapy was consistently associated with reductions in self-reported anxiety and depressive symptoms, improved emotional expression, and enhanced coping capacity. Patients also reported subjective relief from physical discomfort and pain, particularly during chemotherapy or invasive procedures. Interventions involving patient-preferred music and live music sessions tailored to the emotional state of the individual appeared to yield the most favorable outcomes. Furthermore, music therapy was found to foster a sense of personal agency, emotional connection, and spiritual comfort, contributing positively to patients' overall quality of life.

**Conclusions:** Music therapy is a safe, low-cost, and effective adjunct in the palliative management of breast cancer patients. Its impact on emotional well-being and pain relief highlights its potential as a core component of holistic cancer care. Integration into interdisciplinary palliative care teams is recommended, with emphasis on patient's autonomy, cultural relevance, and accessibility—even in low-resource settings.

## OP68 | THE ROLE OF MINDFULNESS IN POSTOPERATIVE PAIN MANAGEMENT IN AN UNSTABLE PSYCHIATRIC PATIENT WITH SCHIZOPHRENIA: AN ANESTHESIOLOGY CASE REPORT

Karamolegkou P. A., Papakonstantinou A., Panagoula E., Mpraimakis F., Papastamou M., Kouroukli Eir., Louizos A.
*Anesthesiology Department, GHA Hippocration, Athens, Greece*

**Background:** Postoperative pain control in patients with severe psychiatric disorders presents unique challenges. Schizophrenia is associated with altered pain perception, poor treatment compliance, and increased risk for delirium. Pharmacologic management may be complicated by antipsychotic polytherapy and cardiac concerns (e.g., QT prolongation). Mindfulness-based interventions have demonstrated benefit in reducing postoperative pain and opioid requirements, but their use in psychotic patients remains largely unexplored.
**Case Description:** A 38-year-old woman with poorly controlled paranoid schizophrenia (on clozapine 450 mg/day, olanzapine 20 mg/day, and long-acting injectable aripiprazole) presented with acute abdomen after ingesting a large volume of liquid soap in a self-injurious act, resulting in gastric perforation. Emergency surgical repair was performed under total intravenous anesthesia (TIVA) using propofol and dexmedetomidine, with close QTc monitoring and minimal opioid use intraoperatively. Postoperatively, a multimodal analgesia regimen was initiated (paracetamol, ibuprofen, and IV morphine via PCA). Starting in the recovery room, the patient also participated in structured 10-min guided mindfulness breathing sessions (body-scan technique) every 8 h for 48 h, led by an anesthesiologist trained in pain management.
**Results:** The patient reported a significant reduction in pain scores (NRS decreased from 4.8 to 2.6 on average over the first 24 h). Total morphine consumption during the first 48 h was approximately 32% lower compared to departmental averages for similar procedures. She mobilized earlier than expected, remained hemodynamically stable, and showed no signs of psychiatric decompensation or postoperative delirium.
**Conclusion:** Mindfulness can serve as a safe and effective adjunct for postoperative pain control even in high-risk psychiatric patients. Integrating short, structured mindfulness interventions into perioperative care may enhance recovery, reduce opioid use, and support psychological stability in complex clinical populations.

## OP69 | THE EFFECTS OF QIGONG EXERCISE ON CHRONIC LOW BACK PAIN IN ADULTS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

Sotiropoulos S.[1], Fyrfiris N.[2], Magklari Ch.[2] Tsaroucha A.[3], Georgoudis G.[1]
*[1]Musculoskeletal Physiotherapy Research Laboratory & Physiotherapy Department University of West Attica (UNIWA), Athens, Greece; [2]"Saint Savvas" Anticancer Oncology Hospital, Athens, Greece; [3]First Department of Anaesthesiology and Pain, National and Kapodistrian University of Athens, Athens, Greece*

**Objectives:** Chronic low back pain (CLBP) remains a prevalent and disabling condition globally. Given the growing clinical interest in non-pharmacological and movement-based therapies, it is important to evaluate the effects of Qigong alone on pain and disability in adults with CLBP.
**Methods:** A systematic review and meta-analysis was conducted according to PRISMA guidelinesin MEDLINE (Medical Literature Analysis and Retrieval System Online), Embase, Physiotherapy Evidence Database (PEDro), and the Cochrane Library. Pain and disability were the primary outcomes. Risk of bias (RoB) was assessed independently by two reviewers using Cochrane's RoB 2 tool. GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach was used to assess the certainty of the evidence.Pain and disability outcomes were pooled using random-effects models, and standardized mean differences (SMD) with 95% confidence intervals (CI) were calculated.
**Results:** A total of 468 records were identified in the initial search out of which after duplicate removal, and screening five studies were included for analysis. Qigong significantly reduced pain compared to control interventions (SMD = −1.00; 95% CI −1.84 to −0.17; $p = 0.02$). Disability scores also improved (SMD = −0.72; 95% CI −1.44 to −0.00; $p = 0.05$). Subgroup analyses showed greater effects against passive controls. Heterogeneity was high ($I^2 > 90\%$), likely due to differences in Qigong style, control type, and intervention duration.
**Conclusions:** Qigong is associated with moderate improvements in pain and disability in individuals with CLBP. These findings support its clinical use as a complementary therapeutic option, though future trials should adopt standardized protocols to reduce variability in outcomes.

## OP70 | A PILOT STUDY INVESTIGATING QIGONG VERSUS USUAL EXERCISES IN ADULTS WITH CHRONIC NON-SPECIFIC NECK PAIN

Katsareli M.[1], Fyrfiris N.[2], Billis E.[3], Sotiropoulos S[1]
*[1]Central Physio Clinic, Athens, Greece; [2]"Saint Savvas" Anticancer-Oncology Hospital, Athens, Greece; [3]University of Patras, Department of Physiotherapy*

**Objectives:** Chronic non-specific neck pain is among the most common musculoskeletal disorders, affecting approximately 45%–54% of adults. Exercise-based interventions, particularly strengthening exercises, are considered a first-line treatment. However, alternative modalities, such as Qigong have gained increasing attention for their potential to improve physical function and address psychological aspects related to chronic pain. This study aimed to examine the effects of a Baduanjin Qigong program compared to conventional physiotherapy on pain, function, anxiety, depression and quality of life.
**Methods:** A single-blinded pilot study was conducted with 20 participants aged 18–65 years with chronic non-specific neck pain, randomly allocated to a Qigong group ($n = 10$) or a physiotherapy group ($n = 10$). Both groups received supervised sessions twice weekly for 8 weeks (16 sessions) and were instructed to continue daily home-based exercises for an additional 8 weeks. Outcomes included pain (NPRS), function (NDI), anxiety and depression (HADS), quality of life (SF-12), and exercise adherence (EARS). Pressure pain sensitivity in the trapezius and tibialis anterior muscles (bilaterally) was assessed using a pressure algometer, and cervical range of motion was evaluated using a

goniometer. Measurements were taken at baseline, week 8, and week 16.

**Results:** Both groups showed significant improvements in pain, function, anxiety, depression, and quality of life ($p < 0.05$). Pressure pain sensitivity was significantly reduced at all tested sites ($p < 0.05$). In the Qigong group, range of motion improved in flexion ($p = 0.033$) and right lateral flexion ($p = 0.003$).

**Conclusion:** Qigong may be as effective as conventional physiotherapy in improving physical and psychological outcomes in chronic neck pain.

## OP71 | THE EFFICACY AND SAFETY OF ACUPUNCTURE FOR CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY IN A PANCREATIC CANCER SURVIVOR. A CASE REPORT

Moutzouri A.[1], Rekatsina M.[2], Siafaka I.[2], Chardalias L.[3], Tzamakou E.[4], Tsaroucha A.[2]

*[1]General/Family Medicine, General Hospital of Athens Korgialenio-Benakio, Hellenic Red Cross, Greece; [2]1st Department of Anesthesiology and Pain Medicine, Aretaieion University Hospital, National and Kapodistrian University of Athens, Greece; [3]2nd Department of Surgery, Aretaieion University Hospital, National and Kapodistrian University of Athens, Greece; [4]Department of Anesthesiology and Pain Medicine, General Hospital of Athens Korgialenio-Benakio, Hellenic Red Cross, Greece*

**Background:** Chemotherapy-induced peripheral neuropathy (CIPN) is a distressing complication that significantly affects the functional performance and quality of life of cancer survivors. As the pathogenesis of CIPN is not fully understood, its prevention and treatment remain major clinical challenges. Acupuncture has been used to alleviate symptoms in cancer patients and in cases of peripheral neuropathies, including diabetic neuropathy and CIPN.

**Aim:** To evaluate the efficacy of acupuncture in treating CIPN in a pancreatic cancer survivor.

**Methods:** A 44-year-old male patient with pancreatic cancer underwent a Whipple procedure followed by 12 cycles of FOLFIRINOX chemotherapy (a combination of 5-fluorouracil, oxaliplatin, irinotecan, and leucovorin). Following chemotherapy, he developed classic "stocking and glove" neuropathic symptoms: numbness, tingling, and burning pain in his extremities. His DN4 score was 9/10, and symptom intensity was rated 10/10 on the Numeric Rating Scale (NRS).

For symptom management, the patient initially tried a short course of pregabalin (75 mg TID), 8% capsaicin dermal patches, and antioxidant agents, with no relief. Due to persistent symptom severity, acupuncture treatment was initiated. The patient received weekly 30-min acupuncture sessions for 15 weeks. Selected acupuncture points included:

- Auricular Shen Men
- LI-4 (Hegu)
- SP6 (Sanyinjiao)
- ST36 (Zusanli)
- Baxie (Ex-UE9) Bafeng (Ex-LE10)

**Results:** After 6 sessions, the intensity of neuropathic symptoms decreased by 30% (NRS 7/10). By the end of the 15th session, the patient rated his burning pain and tingling as 2/10 and his numbness as 5/10 on the NRS. The DN4 score was reduced to 5/10. Overall, there was a significant reduction in symptoms, along with reported improvements in sleep and daily functioning. No adverse effects were observed during the treatment period.

**Conclusion:** Acupuncture appears to be a safe and potentially valuable integrative care option for alleviating CIPN symptoms in pancreatic cancer survivors. While acupuncture has been studied in other cancer populations, reports specific to pancreatic cancer remain limited. Larger, controlled studies are warranted to confirm these preliminary findings.

### REFERENCE

1. Bao T, Patil S, Chen C, Zhi I, Li Q, Piulson L, Mao J. Effect of Acupuncture vs Sham Procedure on Chemotherapy-Induced Peripheral Neuropathy Symptoms A Randomized Clinical Trial. *JAMA Network Open*. 2020;3(3):e200681. https://doi.org/10.1001/jamanetworkopen.2020.0681.

## OP72 | RESTLESS LEG SYNDROME: A PAIN MEDICINE PERSPECTIVE OF UNSETTLED NIGHTS

Ioannidis E., Grammenidis A., Aimon K., Fragkouli I., Sebastou S., Niaka A., Kokolaki M.

*Sismanogleio General Hospital of Athens Department of Anesthesia and Pain Medicine, Athens, Greece*

**Objectives:** Restless Leg Syndrome (RLS), also known as Willis-Ekbom disease, is a neurological disorder marked by an insatiable desire to move the legs, frequently coupled with unpleasant feelings. Periods of relaxation or inactivity, especially in the evenings and at night, usually cause or exacerbate the symptoms. The patient might feel crawling, creeping, itching, or aching, similar to neuropathic pain. Temporary alleviation is achieved by moving the legs, however once legs are at rest again, the symptoms frequently return. We document and share our pain clinic's 15-year experience in helping patients with RLS.

**Methods:** We studied 8 patients, aged 65–76, during that period. All of them met the 5 diagnostic criteria from IRLSSG. 5 of them came to our clinic after being diagnosed by other specialties, but 3 of them were undiagnosed at their initial evaluation. The severity of their symptoms was ranging from moderate to very severe, based on the RLS rating scale, while all of them were complaining about their sleep quality. Three of the participants in our study had iron deficiencies, for which they were referred to an internal medicine physician, and half of the participants had diabetes mellitus in their medical histories. The first step of the treatment was lifestyle changes, including caffeine and alcohol withdrawal. The pharmaceutical protocol included Alprazolam 0.5 mg 1 × 1, Pregabalin 25 mg which was titrated up to 75 mg, Etoricoxib 90 mg for 5 days and we re-evaluate the patients. In 3 cases we added Duloxetine 30 mg 1 × 1. In addition, we advised hot showers in the evening and activities that distract the patient during episodes of RLS.

**Results:** After 1 month from the initial evaluation 3 patients had a significant improvement with a VAS < 3 and an improvement on the RLS scale of at least 10 units. The rest of them had a minor yet important improvement with a VAS 6–7 and an

improvement on RLS scale ranging from 5 to 20 units. In these persistent cases we tried various interventions, including: titrating medication, modifications to the medication's dosage schedule and psychological support sessions. Three of these patients displayed further improvement, but two of them continued to experience severe discomfort.

**Conclusions:** Treatment for Restless Legs Syndrome must be multifaceted, it requires lots of specialties and include both pharmaceutical and non-pharmacological interventions. But more importantly, it requires ongoing observation and assessment to provide the best possible outcomes for the patients and their families, which is why pain clinics play such a significant role for these patients.

## OP73 | TRANSCUTANEOUS PULSED AND RANDOMIZED NEUROLYSIS: A NON-INVASIVE AND EFFECTIVE APPROACH FOR CHRONIC POSTOPERATIVE KNEE PAIN

Micha G., Ntagkas C., Fyrfiris N., Magklari Ch., Tzimas P.
*Department of Anesthesiology and Postoperative Intensive Care, Medical School, University of Ioannina, Ioannina, Greece*

**Objectives:** Chronic postoperative pain, particularly following orthopedic procedures, presents a significant challenge for both patients and clinicians. Traditional treatments may offer limited efficacy or involve invasive techniques with considerable recovery time. With this clinical case we aim to present the clinical outcome of a patient with chronic postoperative knee pain treated with Transcutaneous Pulsed and Randomized Neurolysis (TCPRF) a non-invasive, painless method requiring no anesthesia or sedation.

**Clinical Case:** A 73-year-old patient with a known history of knee osteoarthritis (OA) presented with persistent knee pain and edema, reported to have started immediately after surgery, with no symptom relief for 6 months. Pain intensity was rated between 8 and 10 on the Numeric Pain Rating Scale (NPRS). The patient underwent three sessions of TCPRF therapy, delivered via transcutaneous electrodes targeting the affected area. No analgesia or sedation was administered. Each session was completed on an outpatient basis, without complications or need for recovery time.

**Conclusions:** TCPRF using transcutaneous electrodes represents a safe, effective, and non-invasive option for the management of chronic or acute postoperative knee pain. This method may provide substantial pain relief without the need for pharmacologic therapy, anesthesia, or recovery downtime, and warrants further investigation in larger patient populations.

## OP74 | CASE REPORT: NON-INVASIVE TREATMENT OF CHRONIC POSTOPERATIVE KNEE PAIN USING TRANSCUTANEOUS PULSE RADIOFREQUENCY

Magklari Ch., Poulopoulou S., Ioannidis K., Fyrfiris N.
*"Saint Savvas" Anticancer-Oncology Hospital, Athens, Greece*

**Background:** Transcutaneous Pulse radiofrequency (TcPRF) represent a NON-invasive and risk-free treatment, particularly for patients seeking to avoid invasive pain management procedures.

**Methods:** A female patient, after major oncologic surgery for resection of a large mass in the upper third of the medial head of the gastrocnemius muscle, measuring $7.2 \times 5 \times 5.1$ cm, with a concurrent lesion on the lateral border of the tibial bone, presented to our pain clinic reporting a pain level of 10/10 on the NPRS scale. Eight months later, after all pharmacological treatments had failed, was decided to proceed to TcPRF therapy consisted of 3 weekly sessions.

**Results:** The patient reported gradual improvement even after first session. The pain level dropped to 2–3 on the NPRS scale after the third treatment, and remained at this level for 8 months, when it started gradually to increase again and the TcPRF treatment was repeated without any side effects or discomfort, with the same results.

**Conclusion:** The use of epidermal electrodes for pulsed and randomized neurolysis appears to be an effective, NON-invasive method of pain management.

# ORAL PRESENTATIONS VIII

## OP75 | APPLICATION OF GANGLION LOCAL OPIOID ANALGESIA (GLOA) IN THE MANAGEMENT OF TRIGEMINAL NEURALGIA: DESCRIPTION OF THE METHOD

Tsevreni E.[1], Rogge-Wewel S.[2], Ciolca R.[2], Allaeddine S.[2]
*[1]Private Pain Clinic Xanthi, Greece; [2]Multimodale Schmerztherapie Joseph Hospital Warendorf, Germany; [2]Germanpainclinic Bucarest, Romania; [2]Interbalkan Medical Center, Thessaloniki, Greece*

**Objectives:** Trigeminal neuralgia is a chronic pain disorder with several treatment options, ranging from medications to surgical procedures, which may be limited by side effects or procedural risks. The GLOA method is a minimally invasive technique involving the targeted injection of opioids directly into the region of the Ganglion cervicale superius and this review aims to evaluate the efficacy, safety and clinical applicability of GLOA in the management of trigeminal neuralgia.

**Methods:** Sympathetic nerve blocks are among the established treatment methods in pain medicine. In 1981 began SPROTTE to replace sympathetic nerve blocks with local opioid analgesia and this type of therapy was named "Ganglionic Local Opiod Analgesia" (GLOA). The superior cervical ganglion, part of the sympathetic chain, is a crucial relay station for sympathetic innervation to the head and face. By delivering microdoses of buprenorphine or morphine transoral into the parapharyngeal space at the level of the second cervical vertebra the GLOA technique aims to modulate sympathetic afferent interactions that contribute to pain amplification in trigeminal neuralgia. The patient sits with their mouth open in front of the treating physician and the pharynx is illuminated using a laryngoscope. The guiding instrument is inserted under laryngoscopic visualcontrol and its rounded end plate is gently pressed against the posterior pharyngeal wall. The injection cannula is already fitted with the syringe with Buprenorphin and is inserted into the guiding instrument. Treatment typically starts with daily injections over 8 to 10 days and observing the patient's response to the treatment, the injection intervals can be extended to every 2 or 3 days and

after a short time to once a week. Afterwards if analgesia remains stable, oral pharmacotherapy can be tapered off.
**Result:** Responders of GLOA show a dramatic improvement in symptoms after the 4th or 5th injection, with minimal side effects such as mild pain, burning or pressure at the injection site.
**Conclusions:** This treatment method does not replace established conservative or surgical therapeutic procedures but represents a highly valuable addition to the therapeutic spectrum.

## OP76 | MANAGEMENT OF CHRONIC LUMBOSACRAL PAIN DUE TO BERTOLOTTI'S SYNDROME USING RADIOFREQUENCY ABLATION

Tsapara V., Varveri M., Sifaki F., Zografidou P., Koraki E.
*Anesthesiology department, General Hospital "Papageorgiou", Thessaloniki, Greece*

**Objective:** Presentation of the successful management of a patient with chronic lumbosacral pain, due to Bertolotti's Syndrome, using radiofrequency ablation technique.
**Case:** A 33-year-old female patient presented to our pain clinic with a history of low back pain and left upper buttock pain which initiated 5 years ago. She was diagnosed with an elongated left L5 transverse process in contact with sacral ala (Bertolotti's Syndrome). She had experienced episodes of severe sharp pain (NRS 8/10) presenting mostly at night hours on a monthly basis, with a 2–3 days duration. Both pharmacologic therapy with paracetamol and NSAIDs, combined with physiotherapy, had little contribution to analgesia. Fluoroscopically guided corticosteroid injection, also did not manage to eliminate her pain. Complete pain relief was achieved using bilateral continuous thermal radiofrequency ablation at 75°C applied for 4 min at each side, as well as injection of 10 mL of Ropivacaine 0.2% at each side. The patient reported that she was pain free, even at her 6-month follow – up visit.
**Conclusion:** This case describes the contribution of radiofrequency ablation to the successful, multimodal management of chronic lumbosacral pain due to Bertolotti's Syndrome, when conventional pharmacologic therapy has failed.

## OP77 | TREATMENT OF PERSISTENT NEURALGIA OF THE 1ST AND 2ND BRANCHES OF THE TRIGEMINAL NERVE

Fyrfiris N, Ioannidis K, Poulopoulou S, Magklari Ch.
*"Saint Savvas" Anticancer-Oncology Hospital, Athens, Greece*

**Objectives:** Radiofrequency ablation is non_surgical method for trigeminal neuralgia treatment
**Method:** A 67-year-old man patient, with none pathological history, presented with persistent pain in the 1st and 2nd branches of trigeminal nerve. Due to the failure of mendication (Pregabalin 600 mg, Carbamazepine 400 mg, Duloxetine 60 mg, Oxycodone 60 mg, Paracetamol 3.6 g daily), infiltration was performed in supra- and infraorbital foramen with local anaesthetic (1.5 mL Ropivacaine), which resulted in complete recession of symptoms. After that, was decided to apply neurolysis to the mentioned points. Thermal neurolysis (80°C, 5 min) was applied to each point after infiltration of 0.5 mL lidocaine.
**Result:** The result was the complete elimination of symptoms for 10 months. During this period, the patient reported no pain and no side effects, except an oedema supra and infraorbital, which lasted the first 3 days after the procedure. When the symptoms reappeared, the treatment was repeated without any side effects for the patient.
**Conclusion:** Thermal neurolysis is a safe and effective technique for the treatment of chronic pain.

## OP78 | A NOVEL CRYOABLATION TECHNIQUE TO LATERAL LOW BACK PAIN

Peios D.[1], Kalkanis C.[2], Ble C.[1], Kopatzidis I.[1], Kyriakidou A.[1], Tsaroucha A.[3]
*[1]Functional Neurosurgery Department, St. Luce's Hospital, Thessaloniki, Greece; [2]Orthopaedics Department, St. Luce's Hospital, Thessaloniki, Greece; [3]1st Department of Anaesthesiology and Pain, National and Kapodistrian University of Athens, Aretaieio Hospital, Athens, Greece*

**Objectives:** We present a novel application of cryoablation for treating lateral low back pain in elderly patients who previously responded to diagnostic blocks of the superior and middle cluneal nerves.
**Methods:** Three female patients, aged 81–85, with chronic lateral low back pain underwent targeted cryoablation using a long curved cryoprobe, typically indicated for sacroiliac joint pain. Under fluoroscopic guidance, cryoablation was applied to the middle cluneal nerves at the medial edge of the ipsilateral sacroiliac joint, and to the superior cluneal nerves at the midportion of the iliac crest. The anatomical targets had been previously confirmed by ultrasound-guided diagnostic nerve blocks.
**Results:** All three patients experienced approximately 80% pain reduction on the Visual Analogue Scale (VAS) immediately following the procedure, with sustained benefit for up to 6 months. Quality of life improved significantly, and no complications or adverse effects were reported during the follow-up period.
**Conclusions:** This case series demonstrates that cryoablation with specialized probes adapted to the anatomical distribution of the cluneal nerves may offer a safe and effective treatment for selected patients with refractory lateral low back pain. The technique may be particularly valuable for elderly patients who are unsuitable for more invasive procedures. Further investigation in larger populations is warranted to validate these promising preliminary results.

## OP79 | INTRATHECAL MORPHINE PUMP FOR REFRACTORY PAIN FOLLOWING THORACIC SPINE SURGERY: A CASE REPORT

Alevrogianni F., Stavropoulou E., Saridaki A.M., Solomou D., Bairaktari A.
*Anaesthesiology Department, General Hospital of Attica "KAT", Athens, Greece*

**Background:** Chronic pain is a major health burden, often resistant to systemic opioids due to limited efficacy or intolerable side effects. Intrathecal (IT) morphine offers a targeted alternative by delivering the drug directly into the cerebrospinal fluid,

allowing for lower doses, improved analgesia, and reduced systemic toxicity. It is particularly valuable in patients with chronic refractory pain, such as cancer or neuropathic pain, who have failed standard therapies. Proper patient selection and multidisciplinary management are essential for safe and effective use.

**Methods:** We report the case of a 69-year-old man who underwent surgery for a thoracic spine lesion and subsequently developed paraplegia. He presented to our chronic pain department with severe neuropathic pain, rated as 8/10 on the Numerical Rating Scale (NRS) and 9/10 on the DN4 questionnaire. Despite optimized multimodal analgesia, including opioids and adjuvant medications, his pain remained refractory. Given the severity and chronicity of his symptoms, and his limited response to medication, the decision was made to proceed with intrathecal morphine therapy. An intrathecal catheter was inserted, and an electronic morphine pump was implanted to provide continuous analgesia.

**Results:** Following implantation of the electronic pump, the patient experienced a marked reduction in neuropathic pain. His NRS score decreased from 8/10 to 2–3/10 at rest and to 4/10 during mobilization. Systemic opioid and oral medication was reduced 50%. During the 6-month follow-up, the patient reported improved sleep increased by 55% in PHQ-9 questionnaire. No infusion-related complications—such as catheter migration, infection, granuloma formation, or pump malfunction—were observed.

**Conclusion:** Intrathecal morphine pump therapy proved to be an effective and safe option for managing refractory neuropathic pain following thoracic spine surgery with significant reduce in pain relief and systemic opioid use. This approach should be considered in well-selected patients unresponsive to conventional treatments carefully to ensure optimal outcomes.

## OP80 | EFFECTIVE USE OF SPINAL CORD STIMULATION IN PREVIOUS SPINAL FUSION, CENTRAL LUMBAR STENOSIS AND PERSISTENT SPINAL PAIN SYNDROME (TYPE 2)

Alevrogianni F., Stavropoulou E., Saridaki A.M., Solomou D., Bairaktari A.

*Anaesthesiology Department, General Hospital of Attica "KAT", Athens, Greece*

**Background:** Spinal cord stimulation (SCS) is an established technique for managing chronic pain in patients with complex spinal conditions. We present a case of a patient with Persistent Spinal Pain Syndrome (PSPS) (Type 2), as newly recommended by the International Association for the Study of Pain (IASP), with prior spinal fusion and central spinal stenosis, who was successfully treated with SCS.

**Case Presentation:** A 68-year-old woman with a history of spinal fusion surgery (O3 – I1 vertebrae) 6 years ago, developed central spinal stenosis at the O2 intervertebral space 3 years ago. Despite titrated multimodal analgesic regimens, her symptoms remained refractory. Due to multiple comorbidities, the patient was reluctant to undergo further surgical interventions. A trial of spinal cord stimulation was proposed and conducted with the patient reporting significant pain relief and improved quality of life.

**Methods:** Following a successful trial period, a permanent SCS device was implanted. The patient was monitored for improvements for 6 months in pain levels, mobility, and overall satisfaction through standardized pain assessment scales and quality of life questionnaires.

**Results:** The patient experienced substantial pain relief and functional improvement without the need for additional surgery. The permanent SCS offered high patient satisfaction score, with notable improvements in daily activities.

**Conclusion:** Spinal cord stimulation provides an effective, minimally invasive alternative for pain management in patients with previous extensive spinal surgeries and spinal stenosis, who are unable or unwilling to undergo additional surgical procedures.

## OP81 | RADIOFREQUENCY NEUROLYSIS IN CHRONIC KNEE OSTEOARTHRITIS: APPLICATION AND CLINICAL OUTCOMES IN A REGIONAL HOSPITAL

Choustoulaki M.[1], Chronakis I.[1], Ktistakis I.[2], Apostolidis D.[1], Rodi M.[1], Balasa Th.[1], Alexaki E.[1], Stavvianoudakis N.[1], Rekatsina M.[3]

*[1]General Hospital of Rethymno, Rethymno, Crete, Greece; [2]Venizeleio-Pananeio General Hospital of Heraklion, Heraklion, Crete, Greece; [3]Aretaieio Hospital, National and Kapodistrian University of Athens, Athens, Greece*

**Objectives:** Radiofrequency (RF) neurolysis is a minimally invasive treatment with a clear mechanism of action that has been used in numerous patients for the management of chronic pain. The aim of this study is to present our 2-year experience with RF treatments in degenerative knee osteoarthritis.

**Methods:** The study included 52 patients, 36 women and 16 men, aged between 56 and 91 years, all diagnosed with end-stage osteoarthritis. Patient selection criteria were: prolonged wait times for surgical intervention, refusal of surgical treatment, and a significant medical history involving three or more comorbidities. Patients underwent thermal neurolysis of the superolateral, superomedial, and inferomedial genicular nerves under fluoroscopic guidance. Thermal neurolysis was applied for 3 min per nerve at 80°C, followed by recording changes in pain levels using the Numeric Rating Scale (NRS, 0–10) and functional scores (stiffness scale 0–20). Patients were evaluated over a short period (4 months) using the NRS pain score (0–10) and stiffness score (0–20).

**Results:** The average NRS pain scores decreased by 3 points, and stiffness scores decreased by an average of 4 points, with a corresponding reduction in the need for analgesic medication. Forty-six out of 52 patients reported a significant reduction in nighttime pain, and no complications such as bruising, edema, inflammation, or erythema were reported. Additionally, 46 out of 52 patients indicated they would choose this method again.

**Conclusion:** In conclusion, RF neurolysis is an effective and safe method for managing chronic osteoarthritic pain in selected patients, with the advantage of easy repeatability and satisfying results.

## OP82 | COMPARING EFFECTIVENESS OF IMPLANTING PERIPHERAL NEUROSTIMULATOR ELECTRODES FOR LOW BACK PAIN WITH AND WITHOUT GUIDANCE

Peios D.[1], Tsaroucha A.[2], Ble C.[1], Kopatzidis I.[1], Kyriakidou A.[1]
*[1]Functional Neurosurgery Department St Luce's Hospital, Panorama Thessaloniki, Greece; [2]A Anaesthesiology Clinic, Aretaieio University Hospital, Athens, Greece*

**Objectives:** Peripheral Nerve Field Stimulanion (PNFS) is a known neuromodulatory method for treating chronic low back pain. The technique relies on implanting subcutaneous electrodes to create an electric field that affects the small nerve fibers at the pain area. Theelectrodes can be implanted with and without a guidance system, like fluoroscopy or ultrasound. In this study we compare the results between groups that were implanted with fluroscopy, ultrasound, combined fluoroscopy and ultrasound and without guidance.
**Methods:** 40 patients (14 males, 26 females age 32–85) were randomized in 4 groups for purpose of implantation, 1. Without guidance, 2. Under fluoroscopy, 3. Under ultrasound and 4. Under combined fluoroscopy and ultrasound. The patients were evaluated about efficacy, loss of efficacy, discomfort or any other unpleasant sensation and reimplantation of electrodes.
**Results:** VAS and Quality of Life improvement was about 70% in 6 months in all groups without any statistical difference. In group 1 40% reported discomfort or loss of efficacy, 20% in groups 2 and 3 and 0 in group 4. In the 3 groups that patients were dissatisfied the repositioning of the electrodes was decided after multiple failures in programming to provide adequate pain relief. After correction, which was performed with the combined technique, only 2 patients, 1 from group 1 and 1 from group 3 were still not satisfied and discontinued the therapy.
**Conclusions:** Although there are not significant differences in the efficacy, implanting subcutaneous peripheral electrodes under combined ultrasound and fluoroscopy guidance can minimize the need for reoperation and correction of the electrodes.

## OP83 | CRYOANALGESIA AND OPIOID CONSUMPTION ON POSTOPERATIVE PAIN IN THORACIC SURGERY

Tyrovola N.[1], Mis M.[1], Zachariadi M.[1], Markoulatou V.[1], Zachariadi M.[1], Papageorgiou E.[1], Astropekaki Aik.[1], Dermitzaki E.[1], Vitoula K.[1], Karampinis I.[2], Athanassiadi K.[2], Romana C.[1]
*[1]Departments of Anaesthesiology and [2]Thoracic Surgery, Evaggelismos General Hospital, Athens, Greece*

The optimal approach to pain management after thoracic surgery remains poorly defined.
The purpose of this study was to examine the association between intercostal nerve cryoanalgesia and postoperative opioid analgesic requirements.
**Methods:** We conducted a single center retrospective review of 30 patients who underwent open pulmonary lobectomy. The patients received intercostal nerve cryoanalgesia (group I) $n=15$ were compared with standard opioid analgesia (group II) $n=15$. All patients were subjected to general anaesthesia with intubation with a double lumen tube and mechanical ventilation. After induction of anaesthesia fentanyl 2–4 mcg/kg, propofol 3–5 mg/kg, ketamine 0.5 mg/kg, sevoflurane 1–1.5 mac were administered and analgesia was maintained with fentanyl and remifentanil as proper. Approximately 30 min before the end of the procedure morphine 100 mcg/kg was administered to the two groups. In the postoperative period morphine was administered in regural intervals: boluses max 0.1 mg/kg every 4 h, if visual analogue pain scale score (VAS) > 5. Patients receiving cryoanalgesia intraoperatively were treated with the cryoflex probe at −70°C for 2 min at 5 intercostal spaces encompassing the location of the surgical incision. Complications of the cryolysis procedure were defined as: neuropathetic specific pain described as "burning" sensations in the operated area. Adverse reactions due to opioid were: nausea, pruritus, breathing difficulties, dizziness, apnoea, bradycardia, and decrease in $SpO_2 < 90\%$. Evaluation of acute pain intensity in the first day after surgery, measurement every 4 h for 24 h VAS (0–10), the total dose of morphine, the duration of iv opioid use – up to which day after surgery, side effects of opioids, were recorded.
**Results:** The Wilcoxon rank –sum test demonstrated significantly less inpatient opioid use for cryoanalgesia Group I, (50 mg vs. 150 mg Group II, $p < 0.001$), cryoanalgesia lowered daily VAS score (4 to 7 Group II $p < 0.001$), morphine use up to the 5th day to Group I/8th day. Group II, no side effects of cryolysis were recorded and opioid side effects were at 15% Gr.I/19% Gr.II.
**Discussion:** Cryoanalgesia involves freezing nerves, causing reversible neurolysis of the selected intercostal nerves, which disrupt their ability to transmit pain signals. The intensity and duration of the pain relief are increased depending on the degree of neurolysis, which lasts to 6–10 months.
**Conclusions:** Our results suggest that intraoperative cryoanalgesia during thoracic surgery is associated with lower inpatient opioid requirements and postoperative pain. Favorable trends for improved pulmonary function and reduced opioid use are benefits not easily achieved using other strategies.

## OP84 | OUR EXPERIENCE WITH INTRATHECAL MORPHINE ADMINISTRATION IN TOTAL KNEE ARTHROPLASTIES FOR POSTOPERATIVE ANALGESIA

Alexiadou N.[1], Mavros V.[1], Daví V.[1], Bimpika S.[1], Lamprianidou Z.[1], Papadimitriou S.[1], Kotsaftis M.[2], Koukos A.[2], Antonopoulou E.[1]
*[1]Anesthesiology Department, General Hospital of Xanthi, Xanthi, Greece; [2]Orthopaedic Department, General Hospital of Xanthi, Xanthi, Greece*

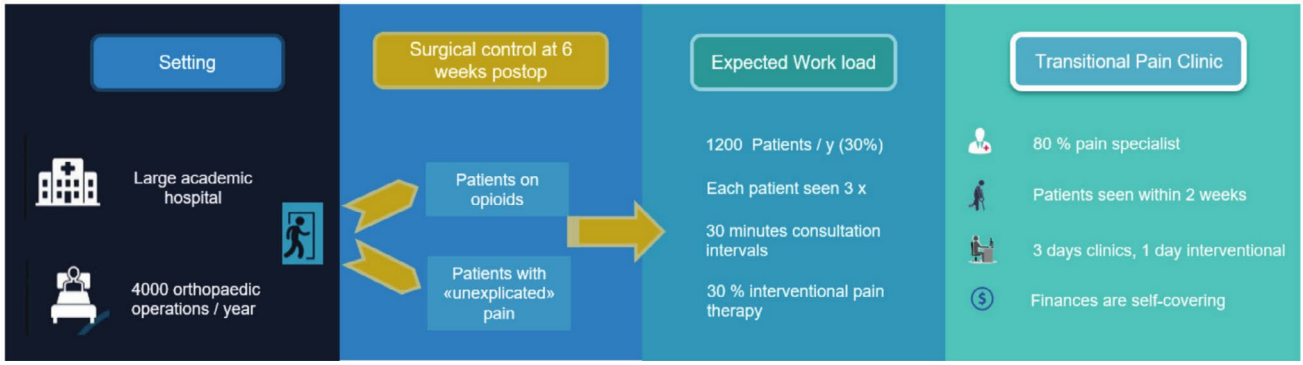
**Aim:** To evaluate the efficacy and safety of intrathecal morphine administration for postoperative analgesia in patients undergoing total knee arthroplasty.
**Material and Method:** We studied 35 patients, 30 women and 5 men, aged 59–85 years, ASA II and III. Spinal anesthesia was performed at the L3-L4 interspace with 16.5–18 mg ropivacaine and morphine at a dose of 0.08–0.1 mg in a volume of 3.2–3.4 mL. The surgery lasted $90 \pm 15$ min and was performed without the use of a tourniquet or drainage. A 1 g intra-articular infusion of tranexamic acid was administered before the end of the procedure. Blood pressure was maintained, when necessary,

with a continuous infusion of norepinephrine. Antiemetic treatment included preoperative metoclopramide 10 mg, dexamethasone 8 mg at induction, and 4 mg ondansetron IV. Patients were discharged from the PACU once Alderete criteria were met. Instructions for monitoring and management of potential complications were provided according to a specific protocol.
Postoperative parameters studied included: $SpO_2$, pulse rate, blood pressure, respiratory rate, apnea, sedation using the Ramsay scale, nausea and vomiting, pruritus, pain at rest and during movement using a VAS score (0–10), and patient satisfaction. These were initially assessed in the PACU and subsequently every 2 h for the first 12 h and every 4 h for the next 12 h (i.e., the first 24 h). The time when analgesia was first needed was recorded.
**Results:** The results across all parameters studied in the patients are as follows: Pain on the VAS scale was 0 in 34 patients and 4–5 in one patient at rest during the first 15 h. Afterwards, until 22 h, pain was 2–3 in 34 patients and more than 5 in one patient. Pain during physiotherapy, usually done between 15 and 18 h post-op, was 4–5 in all patients. On the second postoperative day, pain was 4–6 on the VAS scale at rest and during movement. Analgesia was administered at 17 h in 6 patients and in the rest during the second 24-h period. No patient experienced pruritus, 2 had nausea, and 6 had vomiting. One patient who vomited also presented with delirium. No decrease in respiratory rate below 8, apnea, or sedation was observed. Patient satisfaction ranged from 7 to 10.
**Conclusion:** Intrathecal administration of morphine ensures high-quality postoperative analgesia in total knee arthroplasty procedures, though a monitoring protocol and preventive management of potential complications are required.

## BIBLIOGRAPHY

1. DeSousa, K. A., & Chandran, R. (2014). Intrathecal morphine for postoperative analgesia: Current trends. *World Journal of Anesthesiology, 3*(3), 191–202. https://doi.org/10.5313/wja.v3.i3.191.
2. Wang L-M, Zhang Z, Yao R-Z, Wang G-L. The role of intrathecal morphine for postoperative analgesia in primary total joint arthroplasty under spinal anesthesia: A systematic review and meta-analysis. *Pain Med*. 2021;22(8):1760–71. https://doi.org/10.1093/pm/pnab089. PMID: 33690856.

Fig 1:




## ORAL PRESENTATIONS IX

### OP85 | HOW TO SET UP A TRANSITIONAL PAIN CLINIC. TIPS, TRICKS, HURDLES AND FIRST RESULTS

Heim C.[1,2], Girardin Ch.[1,2], Suter, M.[2]
*[1]Department of Anesthesiology, CHUV University Hospital Lausanne, Lausanne, Switzerland; [2]Pain Center, Department of Anesthesiology, CHUV University Hospital Lausanne, Lausanne, Switzerland*

**Background and Objectives:** Prolonged postoperative pain (PPP) is a frequent complication following surgery. It has major socio-economic implications and carries the risk of opioid dependence and transition to chronic pain. Offering early access to specialist care has shown to mitigate both. We describe the setup of the first transitional pain clinic (TPC) in Switzerland and report first results.
**Materials and Methods:** In June 2021, we analysed retrospectively opioid prescription at discharge and postoperative opioid consumption within our orthopaedic patients. The entry criteria for TPC was set as opioid consumption and/or pain at 6 weeks postoperative. A prospective data base collects admission rates, frequency and proposed treatments and pain/opioid consumption at 6 months.
**Results:** In June 2021, 20.6% were still on opioids at 6 weeks postoperative with 39.7% missing data. The estimation of 30% in need of TPC and assuming 3 consultations/patient resulted in the prospect of a 80% position to cover 3600 consultations/year. With estimated 30% interventional treatments, this project promised being self-financing and received immediate acceptation from governance.
Illimited postoperative opioid prescription was reduced by 41.7% and at the 6-week control, 7.7% were still on opioids (−62.6%). The TPC saw 95 patients in total 250 consultations, with 51.1% presenting continued opioid use.
**Conclusions:** Early access to specialist pain care for PPP is a needed to bridge a gap in the perioperative care pathway. The information spread might be the reason for the observed reduction in postoperative opioid use. Address rate was lower than expected and information on non-opioid pain treatments should be strengthened to bring change to the paradigm of the "normal" postoperative pain trajectory. While the number of consultations per patient and the rate of interventional therapy confirmed our estimations, the thus underused resources

| | June 2021 | | Nov-Jan 24/25 | | p-value |
|---|---|---|---|---|---|
| **Patients with orthopedic surgery** | 301 | | 1018 | | |
| Patients included | 276 | 91,7% | 993 | 97,5% | ns |
| **On opioids at 6 weeks post surgery** | **54** | **20,6%** | **57** | **7,7%** | **<0.0001** |
| not assessed/unknown | 104 | 39,7% | 198 | 26,6% | <0.0001 |
| **Seen in TPC** | | | 34 | 59,6% | NA |
| on opioids | | | 47 | 51,1% | NA |
| adressed by surgeon | | | 13 | 22,8% | NA |
| Patients seen for older postoperative pain | | | 45 | 48.9% | NA |
| Interventional treatment approach | | 30% (expect.) | 31 | 33.7% | ns |

allowed for the earlier-as-planned inclusion of other surgical specialities without budget increase.

## OP86 | EVALUATION OF INFLAMMATORY BIOMARKERS IN PREOPERATIVE NUTRITIONAL ASSESSMENT AND THEIR RELATIONSHIP WITH POSTOPERATIVE PAIN: A PROSPECTIVE CLINICAL STUDY

Ioannidis R.[1], Sarridou D.[2], Tsigalou C.[3], Bampoulas A.[4], Chloropoulou P.[3]
*[1]General Hospital of Drama, Drama, Greece; [2]Aristotle University of Thessaloniki, Thessaloniki, Greece; [3]Democritus University of Thrace, Alexandroupoli, Greece; [4]University College Dublin, Dublin, Ireland*

**Objectives:** Malnutrition is a significant risk factor for poor postoperative recovery. The Anesthesiologist plays a pivotal role throughout the perioperative and postoperative period. However, the literature remains limited regarding specific biomarkers used to assess preoperative nutritional status and their predictive value for the development of acute and chronic postoperative pain. The aim of this prospective randomized study is to evaluate preoperative nutritional status using inflammatory biomarkers and investigate their association with both acute and chronic postoperative pain.
**Methods:** A total of 81 surgical patients aged ≥70 years who underwent either elective or emergency procedures under anesthesia were enrolled. Preoperative assessment included measurement of inflammatory and nutritional biomarkers such as red cell distribution width (RDW), C-reactive protein (CRP), bilirubin, albumin, calcium, and ferritin. Pain levels were recorded using the Visual Analog Scale (VAS) preoperatively, postoperatively (for acute pain), at 30 days (persistent postoperative pain), and at 6 months (chronic pain). Statistical analysis was then performed.
**Results:** No statistically significant association was found between any biomarker and acute postoperative pain. However, CRP and calcium showed a significant correlation with pain at 30 days postoperatively. Chronic postoperative pain at 6 months was significantly associated with RDW and ferritin levels. Albumin demonstrated a strong negative correlation with pain at 30 days and with chronic pain ($\rho = -0.63$ and $\rho = -0.71$, respectively).
**Conclusions:** Although further investigation with the help of the analytical methods for nutritional biomarkers is necessary, the findings suggest that malnutrition is a critical prognostic factor for the development of acute postoperative pain and its transition to chronic pain.

## OP87 | ASSESSMENT OF NUTRITIONAL TESTS IN THE PREOPERATIVE EVALUATION OF NUTRITIONAL STATUS AND THEIR ASSOCIATION WITH POSTOPERATIVE PAIN: A PROSPECTIVE CLINICAL STUDY

Ioannidis R.[1], Sarridou D.[2], Tsigalou C.[3], Bampoulas A.[4], Chloropoulou P.[3]
*[1]General Hospital of Drama, Drama, Greece; [2]Aristotle University of Thessaloniki, Thessaloniki, Greece; [3]Democritus University of Thrace, Alexandroupoli, Greece; [4]University College Dublin, Dublin, Ireland*

**Objectives:** Malnutrition represents a major risk factor for adverse postoperative outcomes. Nevertheless, current literature provides limited evidence on the utility of available nutritional assessment tools in the preoperative setting and their potential to predict the onset of acute and chronic postoperative pain. This prospective randomized study aims to assess preoperative nutritional status using established nutritional tests and explore their association with both acute and chronic postoperative pain.
**Methods:** A total of 81 surgical patients aged ≥70 years who underwent either elective or emergency procedures under anesthesia were enrolled. Preoperative assessment included measurement of established nutritional tests: MNA-SF and mNUTRIC. Pain levels were recorded using the Visual Analog Scale (VAS) preoperatively, postoperatively (for acute pain), at 30 days (persistent postoperative pain), and at 6 months (chronic pain). Statistical analysis was then performed.
**Results:** MNA-SF showed a negative coefficient, suggesting that preoperative malnutrition is linked to greater acute postoperative pain, though this was not statistically significant. mNUTRIC had a larger effect size but also lacked statistical support. At 30 days, MNA-SF was the strongest predictor, with a large negative coefficient indicating better nutritional status significantly reduces short-term pain and complications. Similarly, mNUTRIC showed a large positive coefficient, supporting its role as a risk factor related to nutritional and inflammatory deficits. For chronic pain, nutrition- and inflammation-related variables were most clinically relevant. MNA-SF again had a negative coefficient, implying better nutrition lowers the risk of persistent pain. In contrast, mNUTRIC remained a strong

positive predictor, highlighting prolonged recovery risks linked to nutritional and inflammatory stress.
**Conclusions:** Although further investigation with the help of analytical methods for nutritional biomarkers is necessary, the findings suggest that malnutrition is a critical prognostic factor for the development of acute postoperative pain and its transition to chronic pain.

## OP88 | COMPARATIVE STUDY BETWEEN MORPHINE AND DEXMEDETOMIDINE FOR POSTOPERATIVE ANALGESIA IN PATIENTS UNDERGOING CANCER SURGERIES

Wael Ahmed
*Anesthesia consultant King Abdallah Medical City, Saudi Arabia*

**Background:** Dexmedetomidine is a selective alpha2 adrenoceptor (α2-AR) agonist with evidence of an increased ratio of α2-to-α1 activity. Dexmedetomidine produces analgesia, minimizes opioid-induced muscle rigidity, lessens postoperative shivering, causes minimal respiratory depression, and has hemodynamic stabilizing effects. Dexmedetomidine, when used as an adjunct, can reduce postoperative morphine consumption in various surgical settings using various routes mainly intravenous.
**Methods:** Eighty four cancer patients scheduled for cancer surgeries under general anesthesia were randomized blindly into three parallel groups in this prospective study: Low dose dexmedetomidine group (group A, $n=28$) received 30 min before the anticipated end of surgery a loading dose of dexmedetomidine 1 μg/kg in 100 mL of normal saline over 20 min then an infusion of 0.5 μg/kg/h for 48 h, high dose dexmedetomidine group (group B, $n=28$) received 30 min before the anticipated end of surgery a loading dose of dexmedetomidine 1 μg/kg in 100 mL of normal saline over 20 min then an infusion of 1 μg/kg/h for 48 h, morphine group (group C, $n=28$) received immediately postoperative IV morphine as 0.1 mg/kg as bolus dose and then continuous IV infusion at rate of 0.02 mg/kg/h for 48 h. Postoperative analgesia was assessed using visual analogue score (VAS) recorded 30 min after surgery and then every 4 h for 48 h. Heart rate and non-invasive arterial blood pressure were measured at 30 min, and then every 4 h postoperatively for 48 h, and their mean was compared with the intraoperative one and also was compared between all groups.
**Results:** Postoperatively pain score (VAS) from 30 min till 12 h and from 24 h till 36 were significantly lower in group C than group A and B. However VAS at 16 h, 20 h and from 40 h till 48 h postoperatively wasn't statistically significant among the three groups. During the whole postoperative 48 h the heart rate was significantly lower in group B compared with group A and C, it also was significantly lower than the intraoperative value from 4 h postoperatively till the end of the study. However heart rate was lower in group A than group C during 48 h postoperatively but not statistically significant. Meanwhile it was significantly lower than the intraoperative one from 12 h till 48 h postoperatively in group A. During the whole 48 h postoperatively, mean arterial blood pressure (MABP) was significantly lower in group B compared to the intraoperative value and values in group A and C. In group A, MABP wasn't significantly lower compared to group B and meanwhile it was significantly lower than the intraoperative value during 12 h till 20 h postoperatively.
**Conclusion:** The results of this study proved that morphine has better postoperative analgesia than dexmedetomidine (low and high dose) during the first 36 h postoperatively apart from 16 and 20 h postoperatively; there is no difference in analgesia between the two drugs. However low dexmedetomidine is better than high dose dexmedetomidine as it has less adverse effects.

## OP89 | SILENCING THE STRESS: OPIOID-FREE INDUCTION MODULATES NOCICEPTIVE AND HAEMODYNAMIC RESPONSE TO LARYNGOSCOPY AND INTUBATION

Orfanou C., Mavromati M., Theodoraki K.
*1st Department of Anesthesiology and Pain Medicine, Aretaieion University Hospital, National and Kapodistrian University of Athens, Athens, Greece*

**Objectives:** Laryngoscopy and endotracheal intubation can lead to significant haemodynamic perturbation and a marked nociceptive response. Opioids have traditionally been used by anaesthetists to address this problem. This study aimed to assess the impact of opioid-free induction on nociceptive and haemodynamic response parameters during laryngoscopy and intubation.
**Methods:** Seventy ASA I-II patients undergoing elective surgery were enrolled in this randomized, controlled, double-blind, prospective study. Participants were randomized to two groups, depending on induction agents: OFI (opioid free induction) group received a combination of dexmedetomidine, ketamine and lidocaine prior to laryngoscopy and intubation and OBI (opioid-based induction) group received fentanyl. Nociceptive and haemodynamic parameters were assessed during a 5-min period post laryngoscopy and intubation.
**Results:** All four nociception-related metrics derived from the NOL index consistently demonstrated attenuated nociceptive responses in the OFI group versus OBI, with statistically significant differences. The OFI group exhibited lower median NOL values ($p=0.027$) in general, as well as lower medians of NOL values greater than the 25 threshold throughout the examined period ($p=0.00052$). Regarding haemodynamics, although heart rate increased significantly in both groups post-intubation ($p<0.001$), the elevation was more prolonged in OBI group. Mean arterial pressure remained stable in the OFI group during the study observation period, while in OBI group it demonstrated significant instability with immediate post-intubation increases followed by later decreases when compared to pre-intubation values. Clinically significant hypotension (SAP < 70% baseline) occurred more frequently in OBI than OFI (48.5% vs. 17%, $p=0.011$).
**Conclusions:** This study highlights that opioid-free induction attenuates nociceptive response and mitigates haemodynamic instability associated with laryngoscopy and intubation. Objective patient monitoring, such as the NOL index, further supports the clinical benefits of opioid-sparing techniques.

## OP90 | PAIN ASSESSMENT METHODS FOR INFANTS AND YOUNG CHILDREN AFTER CARDIAC SURGERY: A SCOPING REVIEW.

Dousis E.[1], Anastasopoulou E.[2], Evangelou E.[3], Petsios K.[4]
*[1]Department of Nursing, Faculty of Health and Care Sciences, University of West Attica, Athens, Greece; [2]General Oncology Hospital of Kifissia "Agioi Anargyroi", Athens, Greece; [3]Department of Nursing, Faculty of Health and Care Sciences, University of West Attica, Athens, Greece; [4]Faculty of Nursing, National and Kapodistrian University of Athens, Greece*

**Background:** The assessment of pain in children after cardiac surgery has always been challenging due to several reasons among which the accuracy of the existing pain scales, health professionals lack of knowledge concerning adequate pain assessment and management in children and, the lack of insight concerning pain in children, stand as the most common stated in literature. The aim of this scoping review is to present the available methods used in current clinical practice to assess pain in infants and young children after cardiac surgery.
**Methods:** The scoping review was performed using PRISMA for Scoping Reviews (PRISMA-ScR) guidelines. We searched EMBASE, Web of Science, MEDLINE, and CINAHL from January 1st 2019 to May 31st 2025 to retrieve eligible systematic reviews and surveys. Our primary outcome was to describe the pain assessment scales/tools used in clinical practice with a special focus on their efficiency. Data from the included systematic reviews or surveys was summarized qualitatively.
**Results:** The initial search led to 135 articles, after the implementation of inclusion/exclusion criteria and the removal of duplications, 88 abstracts were evaluated and after the full text evaluation 22 articles were selected. There is a variety of pain assessment scales, self-report, behavioural and physiological scales that have been used in children after cardiac surgery. There is evidence that the Cardiac Analgesic Assessment Scale (CAAS) is a reliable postoperative pain tool for sedated and intubated children after cardiac surgery. The COMFORT-B and FLACC scales seem to be reliable tools for this population after the sedation period, but research data indicate that the cutoff points differ among children from different origins. Self-reports are acknowledged as the best measurement tools. Children, even from the fourth year of age, can report pain using scales such as Faces Pain Scale or Oucher. Limitations exist depending on the cognitive and emotional maturity of the child. The use of visual analogue scale or numeric rating scale, in older children and adolescents after postoperative tracheal extubation is also supported. Innovations in both assessment, therapy and machine learning-based interventions, currently guide effective pain management in clinical practice for both infants and young children.
**Conclusion:** There is no clear answer about the best pain assessment method for infants and young children after cardiac surgery. Age-appropriate pain assessment tools continue to be evaluated, validated, and improved. An individualized pain management plan in accordance to the hemodynamic stability of each child is strongly recommended.

## OP91 | A RANDOMIZED CONTROLLED TRIAL COMPARING COMBOGESIC® (PARACETAMOL/ IBUPROFEN) VERSUS PARACETAMOL/ DEXKETOPROFEN FOR POSTOPERATIVE ANALGESIA IN TRANSURETHRAL SURGERY

Karamolegkou P. A., Papakonstantinou A., Monopatis O. D., Kouroukli Eir., Louizos A.
*Anesthesiology Department, GHA Hippocration, Athens, Greece*

**Introduction:** Effective postoperative analgesia in transurethral surgery is essential for patient comfort and early recovery. This randomized controlled trial aimed to compare the efficacy and safety of Combogesic® (paracetamol 1 g + ibuprofen 300 mg) with the combination of paracetamol 1 g and dexketoprofen 50 mg for the management of moderate postoperative pain in patients undergoing TUR-P or TUR-BT.
**Methods:** A total of 120 patients (ASA I-III) scheduled for transurethral urological surgery were randomized into two groups. Group A received a single intravenous dose of Combogesic® intraoperatively (1.5 mL/kg over 15 min), while Group B received intravenous paracetamol 1 g plus dexketoprofen 50 mg. Pain intensity was assessed using the Visual Analog Scale (VAS) at 0, 1, 6, and 12 h postoperatively. Secondary outcomes included the need for rescue analgesia, catheter tolerance, and adverse effects. All patients were managed under standardized anesthesia protocols, and additional analgesia (morphine or tramadol) was provided if VAS ≥ 4.
**Results:** There was no statistically significant difference in pain scores between the two groups at any time point ($p > 0.05$), indicating comparable analgesic efficacy. However, the Combogesic® group demonstrated significantly better tolerance to the urinary catheter ($p < 0.01$) and a lower requirement for rescue analgesia during the first 12 postoperative hours ($p < 0.05$). The incidence of adverse effects (gastrointestinal, renal, hepatic) was similar in both groups, with no significant safety concerns reported.
**Conclusions:** Both analgesic regimens provided effective pain control following transurethral surgery. However, Combogesic® was associated with improved patient comfort in terms of catheter tolerance and reduced need for additional analgesics, without increasing the rate of side effects. These findings suggest that Combogesic® may be a favorable option for multimodal perioperative pain management in urological procedures.

## OP92 | MULTIMODAL PREEMPTIVE ANALGESIA FOR LAPAROSCOPIC INGUINAL HERNIA REPAIR

Papaioannou E., Douligeri A.Z., Antonaki D.A., Giannoula Ch., Karavida A., Aggelopoulou C., Lampadariou A.
*"Laiko" General University Hospital of Athens, Athens, Greece*

**Aim of the study:** was the evaluation of administration of a combination of different analgesics' categories for perioperative analgesia in laparoscopic inguinal hernia repair, targeting to opioid sparing.
**Patients-Methods:** After granted permission by hospital's Ethical Committee, and patients' informed consent, in a perspective clinical trial 28 patients (20 male, 8 female), aged 22–64, scheduled for laparoscopic inguinal hernia repair were studied. Exclusion criteria were age > 75 years old, patients with renal,

hepatic, cardiovascular disease, and peptic ulcer. Anaesthesia induction and preservation protocol was common in all patients (fentanyl 100 mcg, propofol 2–2.5 mg/kg, rocuronium bromide 1 mg/kg and desflurane 5%–7% in $O_2$/Air mixture so that MAC = 1). During induction a combination of paracetamol 1 g, parecoxib 40 mg, lidocaine 1.5 mg/kg, magnesium sulphate 2.5 g, dexamethasone 8 mg, and clonidine 1.5 mcg/kg was administered at least 15′ before surgical incision. Intraoperatively patients vital signs, other possible pain indicators (lacrimation, lack of myosis), and need for extra analgesics were recorded. Postoperatively, VAS scores and need for extra analgesia were also recorded.

**Results:** None of the patients demonstrated signs of pain (hypertension, tachycardia, or lacrimation intraoperatively, while all of them had satisfactory myosis and none of them needed extra analgesic). Postoperatively, during their stay in PACU, VAS scores were 0–1. None of them needed rescue analgesia. During their hospital stay, pain was efficiently managed with paracetamol 1 g × 3 and parecoxib 40 mg × 1.

**Conclusions:** Timely administration of different acting analgesics' combination in laparoscopic inguinal hernia repair procedures, minimizes short and long acting opioid administration, providing excellent analgesic effect without opioids' common side effects. Further studies are needed to support these findings.

## OP93 | CONCOMITANT USE OF DEXMETEDOMIDINE AND REMIFENTANIL FOR PERIOPERATIVE ANALGESIA AFTER OPEN HEART SURGERY VIA MEDIAN STERNOTOMY. SAFETY PROFILE FOR ASA IV PATIENTS. A PILOT STUDY

Sarridou D.G.[1,2], Fengoudaki M.[1], Marchi A.[1], Gkiouliava A.[1,2], Mitos G.[1], Moka E.[1,2], Amaniti A.[1], Grosomanidis V.[1,2], Argiriadou H.[1,2]

*[1]Anaesthesiology, AHEPA University Hospital, Thessaloniki, Greece; [2]Aristotle University of Thessaloniki, Thessaloniki, Greece*

**Introduction:** Analgesia after cardiac surgery is of major importance and can be challenging. Median sternotomy involves an extensive incision and alongside with the presence of chest drains is related with at least moderate postoperative pain. Dexmetedomidine is a newer a2-agonist that is recommended for analgesia by the latest ERAS guidelines in cardiac surgery. Remifentanil is known to precipitate bradycardia via sympathetic downregulation. However, bradycardia and hypotension are recognized complications of the drug which can complicate the management of this specific cohort of patients with heart disease. The aim of our pilot study is to investigate the safety of the agent by recording any episodes of haemodynamic compromise

**Methods:** Thirty two patients were included all of them ASA 4. A standard dose of continuous infusion of dexmetedomidine 0.2–0.5 mcg/kg/h without loading dose and remifentanil 1–3 mg/mL TCI infusion were given to all patients intraoperatively and also after the transfer to cardiothoracic intensive care unit. Advanced haemodynamic monitoring with hypotension predictive index was attached to all patients in the operating room. Regular paracetamol and rescue dose tramadol were given if required post extubation targeting VAS < 3–4. Haemodynamic support was provided with the administration of noradrenaline and adrenaline infusions whem necessary with a MAP target > 65 mmHg. Haemodynamic values and VAS scores were recored as well as side effects.

**Results:** HPI alarm was not related with bradycadia episodes and on the other hand hypotension was not solely related with the administration of the specific agents. All patients demonstrated stability in terms of heart rate and heart rhythm all through the procedure. Hypotension was related with bleeding, coagulopathy and SIRS after cardiopulmonary CPB and in none of the cases it was attributed to the pharmaceutical agents used for analgesia.

**Conclusion:** Combination of dexmetedomidine and remifentanil is safe with good postoperative analgesic efficacy and was not related to haemodynamic compromise especially bradycardia.

## OP94 | KETAMINE FOR INTRAOPERATIVE ANALGESIA SEDATION AND FOR PERICARDIAL EFFUSION EVACUATION VIA SUBXIPHOID INCISION. A CASE SERIES

Marchi A., Fengoudaki M., Zarogianni T., Mitos G., Amaniti A., Grosomanidis V., Argiriadou E., Sarridou D.G.

*Anaesthesiology, AHEPA University Hospital, Thessaloniki, Greece*

**Introduction:** Pericardial effusion is a recognized complication after cardiac surgery.

Reopening via median sternotomy can be avoided when drainage can be performed with a minimal incision under the xiphoid process. Conscious sedation and multimodal analgesia based on ketamine offers optimal conditions for this condition without the need of converting to general anaesthesia.

**Method:** After obtaining written consent we included 8 patients who underwent a procedure for removal of pericardial effusion. Full monitoring was placed focused on end-tidal capnography and pulse oximetry as well as invasive haemodynamic monitoring for tight blood pressure control because of the nature of the procedure that can be associated with rapid haemodynamic variations. All patients received ketamine, fentanyl 25–50 mcg, paracetamol 1 g in advance preemptively. NSAIDS were given only in the absence of coronary disease and normal renal function.

**Results:** All patients tolerated the procedure very well and achieved adequate analgesia conditions for this procedure. None of them required conversion to general anaesthesia. Level of consciousness was for immediate discharge to straight back to the cardiosurgical ward. All patients reported amnesia and had very low VAS scores on discharge. Patient satisfaction score was also very low.

**Conclusion:** Ketamine as part of multimodal analgesia provides excellent conditions for conscious sedation with high efficacy in terms of postoperative analgesia cover for the above procedure.