Book of Abstracts

INTERNATIONAL PAIN CONFERENCE

Posture, Phantom Sensation, Clinical Evidence, Biomechanics, Neurophysiology, Neuropathies

Albanian STROKE Association

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THE DRG AS A DRIVER OF NEUROPATHIC PAIN, INCLUDING PHANTOM LIMB PAIN

Percussion over sites of nerve injury evokes dysesthesias and pain (the sign of Tinel) indicating that focally injured sensory axons can become electrically hyperexcitable and ectopic pain drivers. This presentation will consider a second ectopic pain generator, the dorsal root ganglion (DRG).

For some conditions, including radicular low-back pain, trigeminal neuralgia, postherpetic neuralgia and phantom limb pain, the DRG is potentially the more important driver and hence a key target for pain treatment.

Evidence for this comes from in situ electrophysiological recordings in nerve injured animals, and recordings from excised DRGs from animals and humans with and without pain.

The ectopic discharge is driven by subthreshold oscillations and both are suppressed by membrane stabilizing drugs at concentrations too low to block impulse conduction along the sensory and motor axons that traverse the ganglion

This opens a therapeutic window for selective pain control… long-term delivery of dilute membrane stabilizers to the DRG within the intervertebral foramen using commercially available indwelling mechanical pumps, or down the road, implantable bio-pumps.

DANIELE BATTELLI

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SPINAL CORD NEUROSTIMULATION FOR CHRONIC PAIN: MECHANISMS, CLINICAL INDICATIONS, AND THE PARADIGM OF SELECTION

Spinal Cord Neurostimulation has emerged as a cornerstone of interventional pain medicine, providing a targeted, reversible alternative for patients suffering from refractory chronic pain. This therapeutic modality functions by delivering controlled electrical pulses to neural structures—most commonly the spinal cord or the dorsal root ganglion—to modulate the transmission and perception of nociceptive signals.

Mechanistically, the foundation lies in the classic Gate Control Theory, where the activation of Aβ sensory fibers inhibits pain transmission at the dorsal horn. However, modern research highlights a broader impact, involving supraspinal modulation and the activation of descending inhibitory pathways. In Ischemic Pain Syndromes, such as refractory Angina Pectoris and Peripheral Vascular Disease, neurostimulation provides relief not only through nociceptive blockade but also by suppressing sympathetic overactivity and inducing peripheral vasodilation, which improves the microcirculatory environment.

The field has been further transformed by a significant evolution in waveforms. Traditional tonic stimulation, which relies on paresthesia, has been augmented by sub-perception technologies such as high-frequency and Burst stimulation. These advancements target distinct neural populations and minimize the sensory burden of stimulation, allowing for more personalized therapy.

Clinically, primary indications include neuropathic syndromes like Persistent Spinal Pain Syndrome, Chronic Ischemic Pain, Complex Regional Pain Syndrome, and, increasingly, Painful Diabetic Neuropathy (PDN), where it addresses intractable lower extremity pain. Optimal outcomes are critically dependent on rigorous multidisciplinary selection. This process involves identifying a clear neuropathic phenotype, ensuring the failure of conservative management, and conducting psychological evaluations to address comorbidities. When integrated within a biopsychosocial framework, neurostimulation offers a high-fidelity solution that significantly improves quality of life and restores functional capacity.

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IS SPINAL CORD STIMULATİON EFFECTIVE IN THE MANAGEMENT OF PHANTOM LIMB PAIN?

Phantom limb pain (PLP) is a neuropathic pain that affects a substantial proportion of amputees and is often refractory to pharmacological and noninvasive therapies. Spinal cord stimulation (SCS) has emerged as a potential neuromodulatory treatment for chronic neuropathic pain, including PLP. Although high-quality randomized controlled trials specifically addressing PLP are limited, available evidence from case reports, case series, and small observational studies suggests that SCS—and more recently dorsal root ganglion (DRG) stimulation—may provide meaningful pain relief in selected patients. This presentation the proposed mechanisms, clinical outcomes, limitations of the current evidence, and practical considerations for the use of SCS in the management of phantom limb pain.

Introduction: Despite advances in medical and rehabilitative care, PLP remains difficult to treat, with many patients experiencing persistent pain despite multimodal therapy. Neuromodulation, particularly spinal cord stimulation, has gained interest as a potential treatment for refractory PLP due to its ability to modulate aberrant nociceptive signaling within the central nervous system.

Mechanism: The analgesic effects of spinal cord stimulation are thought to result from modulation of dorsal column pathways, inhibition of wide dynamic range neurons, and attenuation of central sensitization. In the context of phantom limb pain, SCS may also influence central sensitization as maladaptive cortical reorganization and abnormal sensory processing that occur following amputation. DRG stimulation offers a more focal approach by targeting specific dermatomal distributions, potentially improving outcomes in localized phantom pain.

Evidence: Evidence supporting the use of SCS for phantom limb pain is currently limited and heterogeneous. Published literature consists primarily of case reports and small case series, with variable outcome measures and follow-up durations. While some patients report substantial and sustained pain relief, others experience partial or transient benefit. The absence of large, randomized controlled trials limits definitive conclusions regarding efficacy, durability, and optimal patient selection.

In clinical practice, SCS is generally considered after failure of conservative treatments, including pharmacologic management, physical therapy, and mirror therapy. A temporary trial of stimulation is essential to assess individual response prior to permanent implantation. Careful patient selection, realistic expectation setting, and multidisciplinary evaluation are critical to optimizing outcomes.

Conclusion: Spinal cord stimulation represents a promising but incompletely validated treatment option for refractory phantom limb pain. While existing evidence suggests potential benefit in selected patients, further high-quality studies are required to define its role, identify predictors of response, and establish long-term efficacy. Until such data are available, SCS should be considered on a case-by-case basis within a comprehensive pain management framework.

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NEUROSCIENTIFIC MODELS OF CHRONIC PAIN AND PHANTOM LIMB PAIN

In recent decades, the understanding of pain has undergone a radical transformation, moving from the classical linear model, which interpreted it as a simple ascending signal of peripheral damage, to a complex conception of pain as an emergent state of the central nervous system. Starting with the fundamental findings of the early 1970s, with Gate Control Theory and the first evidence on central modulation, research has progressively highlighted the role of the medial system and descending inhibitory circuits in regulating the experience of pain. More recent findings, supported by neuroimaging and connectivity analyses, have also demonstrated the involvement of distributed brain networks, including the Default Mode Network (DMN), in the perceptual and cognitive-affective construction of pain.

Within this framework, contemporary models such as Neuromatrix Theory and predictive processing describe pain as the outcome of integrative and dynamic processes, in which expectations, body memory, and homeostatic dysregulation contribute to the persistence of chronic pain. Interdisciplinary integration with connectionist approaches and complex and nonlinear systems theory offers additional interpretative tools for understanding pain as an emergent phenomenon within plastic neural networks.

A paradigmatic area of application of these theories is represented by phantom limb and post-amputation phantom pain, which highlight the constructive and central nature of the pain experience. Under these conditions, the plastic reorganization of somatosensory maps and distributed brain networks can be triggered, in the initial phases, also by peripheral bottom-up mechanisms, originating in the dorsal root ganglia (DRG), capable of constituting a primum movens for subsequent overall central reconfiguration. The program aims to provide an updated synthesis of the conceptual and neuroscientific evolution of pain modeling, with important clinical implications for the management of chronic pain and post-amputation syndromes.

SHABAN SINANI

Encyclopedic and Albanological Publications Center

THE CONCEPT OF LIFE, DEATH, RESURRECTION, RETURN, TEMPORARY DEATH AND ETERNITY IN AN ANTHROPOLOGICAL PERSPECTIVE IN ALBANIAN HERITAGE

The relationships between life, death, immortality, eternity, return, or resurrection in the Albanian tradition are also regulated according to biblical–evangelical categories; however, alongside these categories stand traditional popular beliefs, often carrying an unconsciously heretical content.

The rejection of death in a manifestative and spectacular form, through the mourning chants (gjama) of men from the clan, region, and banner, instead of accepting—according to Christian consciousness—that departure from this life is a blessing to be near God; the resurrection of the dead with the same belief in the first resurrection, expressed through the remarkable cycle of Lazarus songs (as well as those of the Annunciation, Pentecost, and Easter traditions); the notion of temporary death and awakening “after 100 years” in epic legendary songs; the cult of the “forty days” of waiting for the soul of the deceased to rest (if not to return physically and spiritually), similar to the forty days of the Exodus and the forty days after childbirth; the formal reconciliation of customary law (kanun) with canon law regarding the communication between the living and the dead on the only non-liturgical day, known as the “Saturday of Souls” or the “Day of the Departed,” when the dead are believed to return to fulfill a promise, a pledge, or a covenant; the entirely anti-normative blessing “may you live, may you be eternal, may you be everlasting”; the mindset “better near the family than near God”—these are some of the phenomena that reveal these relationships on an anthropological level.

APOSTOL VASO

Galenus Clinic

"HUNGER" AND "THIRST": TWO ARISTOTELIAN CONCEPTS THAT MANIFEST AS PHANTOMS, WITHOUT SENSATION.

From the outset, we shall consider the amputee's report of phantom sensation as a metaphysical reality. Within this framework, we have formulated a diagram that schematically demonstrates a "movement beyond the matter of biological tissue."

This perspective originated as an inverse approach, grounded in the comments made on our article "Peripheral Nervous System Origin of Phantom Pain."

These comments, coming from part of the scientific community, were characterized as lying somewhere between "revolutionary" and "red herring." In this context, we have chosen to investigate and theoretically test how much the "impossible" (the red herring) may contribute to understanding the mechanisms of phantom sensation.

The argument for this "inverse" approach is supported by Aristotle's statement: "And we know about becomings and actions and about every change when we know the source of movement, and this is other and opposed to the end." (Aristotle, Metaphysics, trans. Ross, Book B, Part 2, p. 30).

GENTIAN VYSHKA

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PSYCHIATRIC DISORDERS AND PAIN: THE RECURRENCE OF A COMORBIDITY

Painful conditions are probably among the most frequent reasons for seeking medical advice and assistance. Although pain is a common complaint among psychiatric patients, clinicians generally separate its presence from the background mental disorder and downplay its importance, trying primarily to control the psychiatric symptomatology.

As a sensory modality, the presence of pain and its importance account for an impressive body of scholarly research. Cartesian methodology considered sensations of all modalities in a mechanistic form, which actually sounds obsolete.

However, authors have continuously been faced with the same dilemmas plaguing scholars for centuries. We assume that a large portion of the sensory inputs might be generators of distorted perceptions, which subsequently lead to psychopathology.

Auditory and visual hallucinations are incontestable examples. Somaesthetic hallucinations also exist, but pain hardly deserves such a denomination. Nevertheless, chronic pain and psychiatric comorbidity is a reality that needs explanation.

Painkillers are not effective in treating psychiatric disorders, and antipsychotics do very little, perhaps nothing, to relieve pain. The pharmacological approach opens one door on the horizon and closes many others, while clinicians continue to face a high prevalence of comorbid pain and mental health issues.

However, attempts to correlate altered body schemata (as distorted as it may be, for example, in phantom limb pain) with somatic delusions can simplify all these dilemmas, and the basket of psychophysiology, in fact, might be bigger than presumed.

STELLA NKENKE

SUCCESSFUL HYPNOTHERAPEUTIC SUPPORT FOR COMPLEX REGIONAL PAIN SYNDROME (CRPS)

Complex Regional Pain Syndrome (CRPS) represents a severe and often frightening condition for patients and a significant therapeutic challenge for clinicians.

This workshop emphasizes hypnotherapy as an early, integrative intervention, rather than a last resort.

Using clinical case reports with children and adults, participants will explore how targeted hypnotic strategies can reduce pain, improve motor function, and strengthen self- efficacy.

Different hypnotherapeutic approaches and trance interventions are presented with a strong focus on clinical applicability.

SKERDI ZAHAJ

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IDENTITY DEVELOPMENT UNDER CONDITIONS OF CHRONIC PAIN: A PHENOMENOLOGICAL ANALYSIS OF ADOLESCENTS' EXPERIENCENTËVE

Chronic pain during adolescence represents a complex experience that goes beyond physical symptoms, profoundly affecting developmental processes and the construction of personal identity. The aim of this study was to explore, from the perspective of lived experience, the ways in which chronic pain interferes with and hinders the process of identity development in adolescents.

The study was conducted using an interpretive phenomenological approach, within a mixed interpretive sequential design. Participants were ten adolescents aged 17–22 years experiencing chronic pain, selected from different hospital services. Data were collected through semi-structured interviews, built on theoretical models of identity development and conducted in a flexible and non-directive style. Data analysis was conducted through interpretive phenomenology, following a systematic coding and thematic construction process.

The results revealed six underlying themes that describe the main obstacles to identity formation: (1) experiencing chronic pain as a traumatic event and a source of ongoing anxiety; (2) a shift in developmental focus toward pain management, at the expense of exploring personal roles and goals; (3) a sense of alienation from self and peers; (4) a refusal to identify with chronic pain as a defensive strategy to maintain a sense of normality; (5) the gradual integration of the consequences of chronic pain into personal identity; and (6) the importance of belonging and sharing experiences with other individuals in similar conditions for the reorganization of self-understanding.

The findings suggest that chronic pain disrupts the normative tasks of adolescence and reorients the process of identity development toward survival and adaptation. This study highlights the need for developmentally sensitive psychological interventions that address not only symptoms but also processes of identity and meaning-making for adolescents living with chronic pain.

ALKETA ÇOKU

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CHRONIC PAIN: A PSYCHOANALYTICAL PERSPECTIVE

In this presentation, I will focus on the contribution that the psychoanalytic field has made to the theoretical approach to chronic pain.

One of the characteristics that makes pain a privileged phenomenon in the medical and psychological fields is its presence in many pathologies, both organic and mental.

When we talk about pain, we can refer to a conscious experience related to organic damage or a specific pathology, or to a specific mental and emotional state closely related to the concept of suffering and distress, or, to describe it, in the words of Aristotle, “a passion of the soul”.

In fact, there are few diseases that do not have a distinctive painful phase, and for this reason this can be one of the symptoms of a serious pathology.

One of the greatest challenges of modern medicine is the recognition, management and differentiation of pain with an organic basis, therefore, symptomatic of a specific disease, from chronic pain as a pathology in itself.

The latter ceases to be a useful alarm bell for the body but challenges the usual definitions and quantifications of sensory stimulation, causing continuous suffering in the affected individual. Psychoanalysis helps us to see these differentiations more deeply and from another perspective.

Through a series of questions, the presentation will be an open discussion with colleagues, who do not take knowledge for granted, but put it into question, to take one step closer to the truth.

What is the role of the unconscious in chronic pain? How can we approach someone who’s only distinguishing mark of suffering is his or her own words? Is spiritual suffering chronic, or can it be cured?

ANDRIADA META

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CHRONIC PAIN MANAGEMENT: A NARRATIVE REVIEW OF CURRENT GUIDELINES AND EVIDENCE

Background: Chronic pain is a prevalent clinical condition and one of the leading reasons adults seek medical care. When acute or subacute pain is inadequately managed, it may evolve into chronic pain. Chronic pain is generally defined as pain lasting longer than three months and may arise from underlying disease, injury, medical treatment, inflammation, or have no identifiable cause. It represents a major challenge for healthcare systems due to its impact on quality of life, functional capacity, and mental health.

Methods: This study is a narrative review of the literature examining current approaches to chronic pain management. A structured search was conducted using PubMed, the British Journal of Anesthesiology, WHO guidelines, BMJ, The Lancet, ASRA Pain Medicine, and ScienceDirect. Search terms included pain, chronic pain, analgesics, opioids, and neuromodulation.

Only articles published in English were included. Relevant studies were selected based on their contribution to understanding evidence-based and guideline-supported management strategies. Reference lists of selected articles were also manually reviewed.

Results: The literature supports a biopsychosocial approach as the most effective framework for chronic pain management. Compared with the traditional biomedical model, this approach emphasizes functional improvement, psychological well-being, and social integration alongside pain control. Multimodal strategies help address anxiety, depression, and disability, which frequently coexist with persistent pain.

Conclusion: Despite advances in therapy, chronic pain remains difficult to treat, and many patients experience insufficient relief. The commonly used trial-and-error approach may delay effective treatment and increase adverse effects. Personalized, precision-based strategies and emerging therapies are needed to optimize outcomes in chronic pain management.

MARK DOCI

Galenus Clinic

REBUILDING THE PAIN CLINIC BASED ON HUMANISM, SCIENCE, ETHICS, AND RESILIENCE

This paper addresses the reconstruction of a Multidisciplinary Pain Clinic, which can be envisioned as a tree. A tree struck many times by storms that broke its branches but never managed to shake its roots. The roots remained strong and unwavering in their mission to treat chronic pain with dignity and dedication.

The journey of the clinic's staff has been long and filled with challenges. Everything began from scratch, with the first physiotherapist joining the clinic immediately after completing their studies, without comprehensive experience in the complex concept of chronic pain.

Nevertheless, through continuous effort, humanism, and dedication to patients, the first foundations of a new model of care were laid. Over time, other physiotherapists joined the team, sharing the same lack of specific experience but united by faith, hope, and the will to build something different.

Today, the clinic represents a consolidated group built upon four main pillars:science, through evidence-based protocols; the ethics of the Kanun and responsibility toward the patient;

the humanism of Mother Teresa;and the resilience of Gjergj Elez Alia, as a symbol of strengthening family support and confronting chronic pain.

The results of this dedication were clearly reflected during the year 2025, when more than 280 patients with chronic pain were treated, over 6,000 hours of therapeutic care were delivered, more than 250 injections were performed, and over 50 procedures were carried out under CT scanner guidance. These figures do not merely represent workload, but rather demonstrate professional growth, team consolidation, and the trust earned from patients.

Thanks to this continuous commitment, the clinic today represents a key reference point in the treatment of chronic pain in Albania, surpassing the boundaries of a conventional healthcare structure.

This paper reflects what the clinic is today: a professional family that works and lives under a shared roof for a single purpose — treating pain with dedication and through a unique approach aimed at restoring the dignity and lost hope of patients who have been let down by the healthcare system.

This is the story of an idea that was never broken, of a root that remained strong, and of branches that continue to grow, with the hope and desire that their seeds will take root not only in Albania, but beyond its borders as well.

KLEMENTJAN MIRAKA

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SPONDYLODISCITIS IS AN UNCOMMON PATHOLOGY, ENCOUNTERED IN CLINICAL PRACTICE, WHERE TREATMENT REQUIRES A MULTIDISCIPLINARY MEDICAL APPROACH AND PHYSICAL REHABILITATION

Introduction: We report the case of a patient who presented to the emergency room of the Mother Teresa University Hospital Center (QSUNT) with severe pain in the thoracic spine that spread to the lumbar spine and with the inability to walk.

Case: A 72-year-old male patient presented to the emergency department of the QSUT after having a 7-day history of very severe pain in the thoracic spine that was not relieved by nonsteroidal anti-inflammatory drugs (NSAIDs). The pain was of high intensity, continuous and due to the pain the patient was unable to walk normally.

After hospitalization in the Neurology service of the QSUT, the patient underwent magnetic resonance imaging (MRI) of the vertebral column, which revealed a lesion involving the D7-D8 thoracic vertebrae with the following characteristics: hypo intensity in the T1 sequence (Figure 1) and hyperintensity in the T2 sequence (Figure 2) in the interdiscal space with loss of differentiation of the vertebral margins.

In the T2 sequence in the axial plane (Figure 3) pronounced damage to the intervertebral disc was evident. The imaging examination was indicative for the diagnosis of spondylodiscitis.

The patient's history included a 10-year history of diabetes mellitus under treatment with oral antidiabetic drugs. Laboratory tests showed PCR=32mg/dL, Fibrinogen=600mg/dL, D-dimer: 1000ng/mL, with a leukocyte count within the norm.

After consultation with the infectious disease physician, the patient was started on antibiotic therapy with: ceftriaxone 2g/day, metronidazole1500mg/day, levofloxacine 500mg/day and prednisolone 50mg/day, paracetamol 2000mg/day and insulin therapy.

Symptom relief began 36 hours after the start of therapy. The patient was hospitalized for a period of 14 days in the neurology ward and physical rehabilitation began after the 10th day of hospitalization.

After discharge from the hospital, the patient was recommended oral antibiotic therapy with metronidazole 1500mg/day, cefuroxime 1000mg/day, and physical rehabilitation.

Discussion: Spondylodiscitis is a rare pathology encountered in clinical practice, where it is often not diagnosed in time and for this reason the disease has an increased hospital stay and difficulty in the treatment and rehabilitation of this disease [1].

The most common causes are bacterial microorganisms, where patients with chronic diseases such as diabetes mellitus, chronic renal disease and immunocompromised patients, etc. are more predisposed to spondylodiscitis [2].

Imaging examinations, computerized tomography (CT) and MRI, in most cases play the main role in establishing the diagnosis [3].

Physical rehabilitation plays a key role in the fastest possible rehabilitation of the patient and in reducing the hospital stay [4].

Conclusion: Magnetic resonance imaging is the examination of choice in the diagnosis of this disease due to its high sensitivity and specificity.

Antibiotic therapy should be started immediately with broad-spectrum antibiotics and often empirically, and physical rehabilitation should be initiated as soon as the patient's clinical condition allows.

MARSHALL DEVOR

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PAIN IN OSTEOARTHRITIS: INTRINSIC VS. EXTRINSIC INNERVATION OF BONE ENDS

Pain signals are carried by nerve fibers and hence analysis must focus on the pain system. In osteoarthritis (OA) joint cartilage becomes eroded resulting in bone grinding on bone without an intervening cushion.

But cartilage itself is not innervated. What, then, is the source of the nociceptive discharge that causes OA pain? There is no innervated soft tissue between the bone ends such as periosteum, meniscus, or tendon.

Pain-provoking impulses must therefore originate in nociceptive nerve endings within the bone ends themselves, the subchondral bone. The anatomy of this intrinsic bone innervation is well known.

A variety of interventional approaches are available for selectively ablating the problematic intrinsic subchondral bone-end innervation that might complement, or supplant current treatment approaches.

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A LITERATURE REVIEW ON ARTIFICIAL INTELLIGENCE METHODS RELATED TO LOW BACK PAIN

Introduction: Low back pain (LBP) is a worldwide health problem caused by various diseases. It is difficult to establish standards in medical applications because of the differences in the causes of its occurrence and the individual effects in treatment.

Methods: The LBP diagnosis and treatment processes generate different numerical and visual data. Artificial intelligence (AI) techniques have begun to be developed, aiming to improve the understanding of LBP's causes, treatment processes, and effectiveness using patient data. In our study, we aimed to systematically search the literature on the diagnosis and treatment processes of LBP using AI techniques. We conducted a systematic review of studies on LBP utilizing AI methods between 01.01.2000 and 01.05.2023, using the PubMed database. While searching the database, combinations of the terms "Artificial Intelligence," "Machine Learning," "Deep Learning," and "Low Back Pain" were employed.

Results: A total of 369 articles were identified. According to the study inclusion criteria, 354 articles were excluded, and 15 studies were reviewed. Magnetic resonance images, biochemical parameters, kinematic variables, EMG signals, PET imaging, and other variables were used AI methods to diagnose LBP. The studies employing AI methods generally focused on classification and regression problems.

Conclusions: The AI techniques developed for the diagnosis and treatment processes of LBP are promising. It is anticipated that multidisciplinary studies using artificial intelligence.

ERNST ORTHNER

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COMPLEX FOOT DEFORMITIES – COMPLEX AND PAINFUL – RECONSTRUCTION SURGERY EVEN IN EXTREME DEFORMITIES AS ALTERNATIVE TO AMPUTATION

Complex foot deformities, multiple foot arthrosis can be extremely painful and even with orthopedic shoes the patient is often unable to walk more than some step.

Because of chronic and very intensive pain, the final solution is sometime the below knee amputation and prosthetic therapy.

In our foot clinic, we have stopped the amputation because of chronic pain due to arthrosis as deformities and do now than more than 10 years complex reconstructions for fixing multiple arthritic joints, bad deformed joints to correct the foot position and balancing the deformed foot.

In this talk cases should be presented to show, what is possible in foot surgery and with a good soft tissue technique the risk for wound healing complications is very low.

VINCENZO FORLANO

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PHILOSOPHY OF MIND AND THE NEUROSCIENCE AF PAIN

Philosophical reflection on the mind and bodily experience has undergone a long evolution, from classical conceptions of sensibility to contemporary models of philosophy of mind and cognitive neuroscience. In modern thought, authors such as Hobbes contributed to a materialist interpretation of mental processes, while Berkeley emphasized the constitutive role of perception in experienced reality.

With Kant, the mind was understood as an active structure that organizes experience, anticipating a more than merely passive conception of consciousness. In the twentieth century, Husserl and phenomenology further explored the theme of the lived body and intentionality, demonstrating that subjective experience possesses a structure of its own that cannot be reduced to simple sensory data.

At the same time, analytic philosophy and scientific materialism, with authors such as Smart and Churchland, have redefined the mind-brain relationship in neurobiological terms, while contemporary perspectives such as those of Damasio and Metzinger describe the self as a dynamic and embodied construction produced by integrated neural networks.

In this context, clinical phenomena such as phantom limb and phantom pain represent a paradigmatic case, demonstrating how bodily experience is not a linear recording of peripheral signals, but an active construction of the brain, rooted in bodily memory, prediction, and plasticity.

The program aims to offer a historical-conceptual journey connecting the great philosophical traditions on the mind-body relationship to contemporary neuroscientific models, highlighting their epistemological and clinical implications.

APOSTOL VASO

Galenus Clinic

POSTURE ACCORDING TO KENDALL, IMAGINATION ACCORDING TO ARISTOTLE

In order to interpret our understanding of how the DRG functions, we have geometrically modified the theoretical model of “Good Posture” as defined by Kendall. This modification is grounded in two concepts from the philosophical tradition of the Kanun, as used in the definition of the family. These concepts are gjallim and gjindja, which in other languages do not admit a direct one-word translation, but require clarification through broader conceptual explanations.

The Kanun expression “a gathering of limbs that live” is interpreted by us as the totality (the sum) of our ancestors, whom each of us carries within, whereas “the people who increase” refers to those with whom we coexist. The relationships each of us forms with our ancestors and with our family members can be demonstrated geometrically by sketching a tree.

The trunk and the branches of the tree sketch represent our ancestors who “move” within us, while its buds represent our family members who are added. The living presence of our ancestors within us—unlike our family members, whom we can identify visually—cannot be “seen” directly with our eyes; it can only be apprehended through imagination (phantasia).

The concept of the tree in the Kanun’s understanding of the family, intertwined with Aristotle’s philosophical view that “God is alive, but does not experience” (ζῷον ἐστίν, ἀλλ’ οὐκ ἔχει βίον), which itself can also be interpreted geometrically, reveals gjallim—or “a mean proportion”—as the point of departure.

From this perspective, the comparative study of the terms zōon and bion provides a geometric interpretation entirely different from the planes or imaginary lines employed by Kendall in his concept of “Good Posture,” and consequently from the prevailing view of DRG function. The precise geometric verification of postural lines, by uncovering “a mean proportion,” leads to the conclusion that the “Tree of Life” stands in inverse relation to what contemporary biological science presents today.

KLEJDI BAHJA

Galenus Clinic

SQUARING THE CIRCLE AND THE "VITRUVIAN MAN" AS A MODEL OF IDEAL STRETCHING

The classic mathematical problem of squaring the circle has historically been a symbol of the search for harmony and proportion between the geometric shapes of the circle and the square, where over the years many mathematicians have tried to provide a solution.

We believe that squaring the circle is a geometric problem, and can only be solved through geometry, taking as the measuring unit of the square and the circle precisely the human being.

This study also aims to propose a theoretical and practical model of ideal stretching, taking as a model the figure of man in a square and in a circle made by Marcus Vitruvius Pollio, where the opening of the body and limbs towards the corners of the square and in the circle, taking the navel as its origin, is used as a biomechanical and neuro-motor paradigm for the extension or in other words the optimal stretching of muscles and fascia/aponeurosis.

GENTIAN HUTI

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PRINCIPLES OF ANALGESICS/SEDATION IN INTENSIVE CARE UNITS

Analgesic sedation is an essential component of care in the intensive care unit (ICU), directly affecting patient comfort, synchronization with mechanical ventilation, hemodynamic stability, and short- and long-term clinical outcomes.

Contemporary principles of analgesia emphasize the priority of adequate pain management before sedation, the use of minimal and titrated sedation, and continuous assessment using standardized scales.

The approach known as “analgesia-first” or “analgesia-based sedation” aims to reduce exposure to sedatives, thereby reducing the incidence of delirium, the duration of mechanical ventilation, and the length of stay in the ICU.

The most commonly used drugs include opioids for pain control, non-benzodiazepine sedatives such as propofol and dexmedetomidine, and adjuvant drugs in multimodal strategies.

Systematic monitoring of pain, sedation, and delirium, using scales such as the Numeric Rating Scale (NRS), the Richmond Agitation–Sedation Scale (RASS), and the Confusion Assessment Method for the ICU (CAM-ICU), is essential for individualizing therapy.

Implementation of structured analgesic-sedation protocols and their integration into ABCDEF care packages is associated with improved clinical outcomes, reduced neurocognitive complications, and increased quality of care in intensive care.

RUDIN DOMI

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FROM ACUTE TO CHRONIC PAIN: THE ANESTHESIOLOGIST PERSPECTIVE

The transition from acute pain to chronic pain represents a complex and multidimensional problem in modern medicine, with significant clinical, social, and economic consequences. Acute pain, particularly postoperative or post-traumatic pain, is part of the physiological response to tissue injury; however, if it is severe, prolonged, or inadequately managed, it may lead to peripheral and central sensitization of the nervous system, thereby promoting the development of chronic pain.

This process is influenced by the interaction of biological, psychological, and social factors, including the intensity and duration of the initial pain, the patient's emotional state, and individual predisposition.

The role of the anesthesiologist is crucial in interrupting this transition. Through perioperative risk assessment for the development of chronic pain, personalized analgesic planning, and the use of multimodal strategies that combine medications with different mechanisms of action, the anesthesiologist directly contributes to reducing nociception and the inflammatory response.

The application of regional anesthetic techniques, the rational use of opioids, and the integration of adjuvant therapies help achieve effective control of acute pain and reduce the risk of chronicity.

In conclusion, optimal management of acute pain should be regarded as a long-term preventive intervention. Through structured, multidisciplinary, and evidence-based treatment, the anesthesiologist plays a decisive role in preventing chronic pain and improving long-term outcomes for patients.

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GENOMIC IMPLICATION IN ANAESTHESIA AND ANALGESIA

The today anaesthesia is safe and commonly for see able. Anaesthetists work with patients that have altered homeostasis. In general anaesthesia sometimes the awakening is unpredictable and extend. It is something wrong with anaesthesia plan, or the patient is really" sick"?

We use some indices to calculate the anaesthetic risk such as: ASA class, Mallapati classification for intubation difficulty, cardiac risk index etc. These are not perfect predictors. Maybe we need some additional information to make them better predictors. The purpose of preanesthetic evaluation is to estimate the risk and after that to optimise it.

The Human Genome Project have done steps further and recently led to numerous studies associating genetic variation with common diseases such as coronary artery disease, type II diabetes, atrial fibrillation, autism etc.

In difference to common acquired diseases that make up most of the health care, there are genetic diseases that are not so frequently, but they generally are profoundly debilitating or lethal in early of life. The first example is alkaptonuria. Other examples are malignant hyperthermia pseudo cholinesterase deficiencies.

The impact of genetic variations on homeostasis are multifactorial. Here we are focused on anaesthesia and analgesia findings. Genetic variations can be separated into: chromatin folding, DNA-coding, RNA-expression and RNA translation into protein.

The purpose of genetic studies is identification of pathways of diseases and determining therapies for individual patients Anyway much more work needs to be done.

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TREATMENT OF POSTOPERATIVE PAIN IN NEUROSURGERY

Postoperative pain management in neurosurgery poses a specific challenge for the anesthetists, due to the need for a careful balance between adequate analgesic control and maintaining reliable neurological assessment.

Neurosurgical interventions are often associated with moderate to severe pain, and uncontrolled use of opioids can mask early signs of neurological complications, cause respiratory depression, excessive sedation, and increased intracranial pressure.

The contemporary approach to postoperative pain management in neurosurgery is based on multimodal analgesia, combining non-opioid analgesics, carefully titrated opioids, local anesthetics, and selective regional techniques.

The use of intravenous paracetamol, selected nonsteroidal anti-inflammatory drugs, subanesthetic doses of ketamine, and lidocaine infusions has been shown to be effective in reducing opioid consumption and improving the quality of analgesia.

Local wound infiltration techniques and scalp blocks are valuable strategies, especially in craniotomy. Individualization of analgesic therapy, based on the type of intervention, neurological status, comorbidities, and bleeding risk, is essential for optimizing clinical outcomes and accelerating postoperative recovery in neurosurgical patients.

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POSTOPERATIVE PAIN IN CARDIAC SURGERY WITH STERNOTOMY; MECHANISMS, CAUSES, COMPLICATIONS, AND MANAGEMENT

Introduction: Postoperative pain following cardiac surgery with median sternotomy remains a significant clinical issue despite advances in surgical and anesthetic techniques. Inadequately controlled pain adversely affects respiratory function, delays mobilization, increases sympathetic activation, and contributes to postoperative morbidity. Effective pain management is therefore essential for optimal recovery and prevention of complications.

Material and Methods: This abstract is based on a narrative review of recent clinical studies and international guidelines addressing postoperative pain after cardiac surgery via sternotomy. Emphasis was placed on pain mechanisms, risk factors, associated complications, and evidence-based multimodal analgesic strategies.

Results: Post-sternotomy pain is multifactorial, involving tissue injury, inflammation, intercostal nerve damage, rib retraction, and central sensitization. Contributing factors include prolonged surgical duration, chest drain placement, inadequate analgesia, and patient-related factors such as advanced age, obesity, and pre-existing pain syndromes.

Poorly controlled pain is associated with respiratory complications, including atelectasis and pneumonia, impaired coughing, prolonged mechanical ventilation, increased myocardial oxygen demand, arrhythmias, and development of chronic post-sternotomy pain syndrome.

Multimodal analgesia combining opioids, non-opioid analgesics, regional techniques (such as paravertebral or erector spinae plane blocks), and non-pharmacological measures demonstrated superior pain control while reducing opioid-related adverse effects.

Conclusion: Postoperative pain after cardiac surgery with sternotomy requires early recognition and a structured, multimodal management approach. Optimizing analgesia improves respiratory function, facilitates early mobilization, reduces complications, and may prevent chronic pain development. A multidisciplinary strategy involving anesthesiologists, surgeons, and intensive care teams is essential for improving postoperative outcomes.

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PRINCIPLES OF TREATMENT OF ACUTE PAIN IN LIVER TRANSPLANTATION

Acute pain management in liver transplantation is a critical component of perioperative care, directly affecting hemodynamic stability, respiratory function, and early postoperative outcome.

The complexity of this management is related to the highly invasive nature of the surgical intervention, the presence of coagulopathy, the pronounced pharmacokinetic and pharmacodynamic alterations in patients with end-stage liver failure, and the need to maintain optimal graft function.

The contemporary approach relies on multimodal analgesia, which includes the use of opioids with predictable metabolism, non-opioid analgesics, local anesthetics, and carefully selected regional anesthetic techniques.

Strategies such as intravenous lidocaine infusion, the use of subanesthetic doses of ketamine, and abdominal wall blocks (e.g., TAP block, erector spinae plane block) have demonstrated efficacy in reducing opioid requirements and improving analgesic control.

Drug selection and titration should be individualized, taking into account hepatic and renal function, coagulation profile, interactions with immunosuppressive therapy, and the risk of side effects.

The integration of standardized analgesia protocols within Enhanced Recovery After Surgery (ERAS) programs contributes to the reduction of postoperative complications, the duration of mechanical ventilation, and intensive care unit stay, improving clinical outcomes in liver transplantation.

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PRINCIPLES OF MULTIMODAL ANALGESIA OF ACUTE POSTOPERATIVE PAIN

Acute postoperative pain remains a frequent clinical problem with a direct impact on morbidity, functional recovery and patient satisfaction.

The concept of multimodal treatment of acute postoperative pain represents a contemporary strategy that aims to modulate different nociceptive mechanisms through a rational combination of pharmacological and non-pharmacological techniques.

This approach is based on the synergistic use of non-opioid analgesics, carefully titrated opioids, local anesthetics, adjuvant drugs and regional anesthetic techniques, with the aim of achieving effective analgesia while reducing the side effects associated with opioid monotherapy.

Contemporary evidence shows that multimodal analgesia is associated with reduced opioid consumption, lower incidence of postoperative nausea and vomiting, improved respiratory function, and earlier patient mobilization.

Implementation of this concept requires careful perioperative assessment, individualization of therapy according to the type of surgical intervention and patient profile, and integration into Enhanced Recovery After Surgery (ERAS) protocols

The anesthesiologist plays a central role in the design and implementation of multimodal strategies, significantly contributing to improving clinical outcomes and the quality of postoperative care.

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MOBILE APP FOR SELF-MANAGEMENT OF PHANTOM LIMB PAIN IN UKRAINIAN WAR-INJURED AMPUTEES: FIRST RESULTS OF PAMELA PROJECT

Background: War-related amputations in Ukraine have created urgent need for accessible pain management solutions. The PAMELA project evaluates a mobile application delivering graded motor imagery (GMI), mirror therapy, laterality training, and mindfulness interventions for amputation-related pain.

Methods: Twenty-eight amputees completed an 8-week supervised protocol with weekly therapist guidance and home-based app usage. Outcomes included pain intensity, functional interference, and engagement metrics across 110 longitudinal assessments.

Results: Mean pain intensity decreased 23% (6.2 to 4.8/10), with 75% of participants achieving clinically meaningful improvement (≥30% reduction). Strong dose-response relationships emerged between engagement and outcomes (r=0.72): high engagers (≥5 weekly sessions) achieved 65% pain reduction versus 15% in low engagers (1-2 weekly sessions).

Conclusions: Preliminary findings support the feasibility and potential efficacy of mobile app-delivered GMI-based interventions for amputation-related pain in war-injured populations. The strong engagement-outcome connection underscores the importance of patient adherence. Continued enrollment will provide more robust efficacy data.

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PHANTOM LIMB PAIN. A REVIEW OF MECHANISMS, THERAPY AND PREVENTION

Phantom limb pain is the painful sensations that patients feel as if they are coming from the amputated limb, even though it no longer physically exists

The main causes leading to amputation of a limb are peripheral vascular disease, diabetes and trauma. The prevalence of patients with amputation of a limb at the European level is estimated at 1.6-3.6% of the population and is increasing.

The prevalence of phantom pain in patients with limb amputation is estimated to be between 40-85% in the early postoperative period, gradually decreasing over time (e.g., to 50-70% after 6 months and below 60% after 2 years).

Although there is no universally accepted method of treating phantom pain, a number of therapies are currently in use, ranging from analgesics, antidepressants, opioids, and psychological and neurorehabilitation treatments that have been developing in recent years.

New methods such as nerve blocks, injections, and nerve stimulation (central and peripheral) have been making progress in recent years.

First described 500 years ago, phantom pain is still not fully understood. The complete elucidation of its pathophysiology, mechanisms, and especially its treatment is a challenge for modern medicine.

This review aims to highlight the latest developments in phantom pain and the novelties in its treatment.

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POST-MASTECTOMY PHANTOM PAIN: EFFICACY OF PHYSIOTHERAPY INTERVENTIONS

Background: Post-mastectomy phantom pain is a chronic pain condition affecting a substantial proportion of patients following breast surgery. It is commonly associated with neuropathic mechanisms, central sensitization, and altered body perception, resulting in functional limitations and reduced quality of life.

Due to its complex pathophysiology, non-pharmacological interventions are considered essential within a multidisciplinary pain management framework.

Objectives: This study aimed to evaluate the effectiveness of physiotherapy-based interventions in managing post-mastectomy phantom pain and to assess their impact on pain intensity, functional outcomes, and quality of life.

Methodology: The study was conducted in accordance with PRISMA guidelines through a structured search of recent literature on physiotherapy interventions for post-mastectomy phantom pain.

Clinical studies and reviews reporting outcomes on pain intensity, upper-limb function, and quality of life were included, while studies focusing solely on pharmacological approaches were excluded.

Data were synthesized narratively, emphasizing key rehabilitative interventions and patient-reported clinical outcomes.

Results: The reviewed evidence indicates that physiotherapy interventions are associated with significant reductions in pain intensity, alongside improvements in shoulder mobility, functional capacity, and psychosocial well-being.

Interventions targeting central pain mechanisms, particularly graded motor imagery and mirror therapy, demonstrated superior effectiveness compared with approaches addressing only peripheral mechanisms.

Conclusion: Physiotherapy represents a safe and effective component of multidisciplinary pain management for post-mastectomy phantom pain. Individualized treatment strategies addressing both central and peripheral mechanisms may optimize long-term functional outcomes and enhance quality of life in breast cancer survivors.

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NEUROPATHIC PAIN IN RHEUMATOLOGICAL DISEASES

Background. Pain is the main and most disabling symptom in rheumatoid arthritis and osteoarthritis. Traditionally, this pain has been interpreted as nociceptive, related to inflammation and structural damage to the joints. However, studies of the last decade suggest that neuropathic pain represents an important and often underestimated component in this disease.

Objective. Identification and characteristics of neuropathic pain in rheumatic diseases through the LANSS scale and the frequency of this component between the two groups.

Methodes. The study included 110 patients presented to the outpatient rheumatology service, where 50 patients were diagnosed with rheumatoid arthritis according to ACR/EULAR criteria and 60 patients diagnosed with osteoarthritis according to clinical and radiological criteria.

Inclusion criteria were age over 40 years, presence of chronic joint pain over 3 months; exclusion criteria were presence of other peripheral neurological diseases, history of recent surgical interventions on the affected joints and severe psychiatric disorders.

Neuropathic pain was assessed using the LANSS scale (which includes subjective components and clinical examination). A score above 12 points was considered indicative of the presence of neuropathic pain.

Results. The mean age of patients with rheumatoid arthritis was 56.4 ± 9.2 years, while in the osteoarthritis group it was 61.8 ± 8.7 years. Female accounted for 73% in the rheumatoid arthritis group and 65% in the osteoarthritis group. 14 of 50 patients (28%) with rheumatoid arthritis had LANSS scores of 13.2 ± 2.8 and 27 of 60 patients (45%) with osteoarthritis tested positive for neuropathic pain with a LANSS score of 14.6 ± 3.1. Patients reported symptoms of burning, prickling, or electric shock-like sensations.

Conclusions. Neuropathic pain is an important component of chronic pain in both diseases with a higher prevalence in osteoarthritis. The LANSS score is important in routine clinical evaluation with the aim of improving therapeutic strategies and functional outcomes of patients.

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THE IMPACT OF SIGNALING CELLS ON NEOVASCULARIZATION, IMMUNOMODULATION, AND PAIN IN TISSUE REGENERATION

Sfondi: Background: Tissue injury initiates a complex biological cascade involving inflammation, angiogenesis, immune regulation, and neural signaling. While regenerative medicine has traditionally emphasized stem cells as replacement units, increasing evidence indicates that their primary therapeutic role lies in transient paracrine and matrix-mediated signaling. These signaling processes critically influence neovascularization, immune balance, and nociceptive modulation—key determinants of both tissue regeneration and pain resolution.

Conceptual Framework: Signaling cells, including adipose-derived stromal cells and associated stromal and immune populations, function as biological conductors rather than structural building blocks. Through the release of cytokines, chemokines, growth factors, extracellular vesicles, and microRNAs, they orchestrate vascular ingrowth, modulate inflammatory responses, and influence peripheral and central pain pathways. Importantly, long-term engraftment of adult mesenchymal cells is minimal in most tissues, yet clinical improvements often persist, underscoring the primacy of signaling over cellular replacement.

Neovascularization and Pain: Angiogenesis is tightly coupled to nerve regeneration and immune cell trafficking. Balanced neovascular signaling promotes oxygenation, metabolic recovery, and resolution of ischemic pain, whereas dysregulated vascular–immune signaling contributes to chronic inflammation and persistent nociception. Extracellular matrix fragments and mechanical cues further modulate these processes by shaping cellular behavior and inflammatory tone.

Clinical Implications: Effective tissue regeneration and pain modulation depend not on isolated cells or individual growth factors, but on the preservation and timely delivery of an integrated regenerative milieu. Mechanical, enzyme-free approaches that conserve both cellular and acellular signaling components offer a physiology-aligned strategy to influence inflammation, vascular remodeling, and pain resolution within clinically acceptable frameworks.

Conclusion: Pain persistence often reflects a failure of regenerative communication rather than irreversible tissue damage. Understanding regeneration as a coordinated signaling event—integrating neovascular, immune, and neural pathways—opens new therapeutic perspectives for pain management and tissue repair that extend beyond cell-centric paradigms.

Qasjet mekanike, pa enzima që ruajnë si komponentët qelizorë ashtu edhe ata joqelizorë të sinjalizimit ofrojnë një strategji të përafruar me fiziologjinë për të ndikuar në inflamacion, rimodelimin vaskular dhe zgjidhjen e dhimbjes brenda kornizave klinikisht të pranueshme.

Përfundim: Persistenca e dhimbjes shpesh pasqyron një dështim të komunikimit rigjenerues në vend të dëmtimit të pakthyeshëm të indeve.

Të kuptuarit e rigjenerimit si një ngjarje sinjalizuese e koordinuar - integrimi i rrugëve neovaskulare, imune dhe nervore - hap perspektiva të reja terapeutike për menaxhimin e dhimbjes dhe riparimin e indeve që shtrihen përtej paradigmave të përqendruara te qelizat.

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PERSISTENT POST-MASTECTOMY PAIN: NEUROBIOLOGICAL AND PSYCHOSOCIAL MECHANISMS WITH IMPLICATIONS FOR EARLY INTERVENTION

Background: Persistent post-mastectomy pain (PPMP) is a chronic postsurgical pain condition with predominantly neuropathic characteristics, affecting approximately 25–60% of breast cancer survivors.

Despite advances in perioperative care, PPMP remains a major contributor to long-term disability and reduced quality of life. The substantially lower incidence of chronic pain after aesthetic breast surgery suggests that nerve injury patterns, maladaptive neuroplasticity, and psychosocial vulnerability play a greater role than tissue trauma alone.

Objective: To synthesize current evidence on the neurobiological and psychosocial mechanisms underlying PPMP and highlight preventive and early interventional strategies.

Methods: A focused narrative review of clinical and experimental literature was performed, integrating data on peripheral nerve injury, central sensitization, cortical reorganization, phantom breast phenomena, psychosocial risk factors, and perioperative preventive strategies.

Results: PPMP is associated with injury to the intercostobrachial, intercostal, medial and lateral pectoral, and thoracodorsal nerves, leading to neuroma formation, ectopic neural firing, and persistent peripheral sensitization. Central mechanisms, including spinal dorsal horn hyperexcitability and maladaptive cortical reorganization, contribute to phantom breast sensations and persistent neuropathic pain.

Experimental and clinical data suggest that abnormal activity originating from the dorsal root ganglion may play a critical role in sustaining phantom pain phenomena and aberrant sensory perception.

Phantom breast sensations have been reported in up to 80% of patients following mastectomy. Psychosocial factors such as anxiety, depression, pain catastrophizing, emotional distress, and sleep disturbance significantly modulate pain chronification.

Established clinical risk factors include axillary lymph node dissection, radiotherapy, younger age, obesity, and severe acute postoperative pain. Evidence indicates that optimized regional anesthesia, multimodal analgesia, and nerve-sparing surgical techniques, including thoracic paravertebral and pectoral blocks, may reduce long-term pain incidence.

Conclusion: PPMP represents a multidimensional chronic pain condition driven by peripheral nerve injury, central neuroplastic changes, dorsal root ganglion sensitization, and psychosocial vulnerability. A mechanism-based, interdisciplinary perioperative approach emphasizing early identification and preventive interventions.

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POST-INFECTIOUS NEUROPATHIC PAIN: CLINICAL PERSPECTIVES FROM INFECTIOUS DISEASES

Background: Post-infectious neuropathic pain is an increasingly recognized yet frequently underdiagnosed complication of infectious diseases. Neurotropic pathogens, particularly viral agents, can induce persistent structural and functional alterations of the peripheral and central nervous system through direct neuronal injury, immune-mediated mechanisms, and sustained neuroinflammation.

These processes may result in chronic pain syndromes that significantly impair patients' quality of life long after resolution of the acute infection.

Objectives: To provide an academic overview of post-infectious neuropathic pain, emphasizing its pathophysiological mechanisms, clinical manifestations, and management strategies from the perspective of infectious diseases practice.

Methods: A narrative review of current scientific literature was conducted, complemented by clinical observations from an infectious diseases' unit.

Published data on viral and bacterial infections associated with neuropathic pain, including herpes zoster, post-COVID-19 syndrome, and other neurotropic pathogens, were analyzed with regard to pathogenesis, clinical presentation, and therapeutic approaches.

Results: Post-infectious neuropathic pain arises from a multifactorial interplay between direct neural damage, immune-mediated inflammation, and persistent neuroimmune activation.

Clinically, patients may present with burning pain, paresthesia, dysesthesia, allodynia, or hyperalgesia, which can persist for months or years following infection.

Early recognition and timely multidisciplinary management are crucial in preventing pain chronicity.

Therapeutic strategies include pathogen-specific treatment when indicated, pharmacological agents targeting neuropathic pain, and supportive non-pharmacological interventions.

Conclusion: Post-infectious neuropathic pain represents a clinically significant and often overlooked sequela of infectious diseases.

Increased awareness among infectious disease specialists and close collaboration with pain management teams are essential to improve diagnostic accuracy and optimize patient-centered therapeutic outcomes.

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TRANSITION TO MODERN SPINE SURGERY IN ALBANIA

The field of spine surgery has undergone a transformative evolution over the past few decades, shifting from traditional open surgical techniques to cutting-edge, minimally invasive approaches.

This transition has been largely driven by significant advancements in medical technology, including innovations in imaging, instrumentation, and surgical navigation systems. As a result, modern spine surgery now emphasizes more precise, less invasive methods with the goal of enhancing surgical outcomes, reducing complications, and improving recovery times for patients.

Historically, spine surgery often required large incisions, significant muscle dissection, and prolonged recovery periods. However, with the advent of minimally invasive spine surgery (MISS), procedures such as percutaneous spinal fixation, endoscopic discectomies, and microdiscectomies have become more common. These approaches allow surgeons to access the spine through smaller incisions, leading to reduced muscle and soft tissue disruption. As a result, patients benefit from less postoperative pain, shorter hospital stays, and quicker return to normal activities.

Another key development in modern spine surgery is the use of advanced imaging techniques. Technologies such as intraoperative fluoroscopy, 3D imaging, and CT/MRI-based navigation systems have greatly enhanced the accuracy and precision of spinal procedures.

These tools enable real-time visualization of the spine, allowing surgeons to perform procedures with greater confidence and less risk of complications. In particular, robotic-assisted surgery has become increasingly prevalent, providing unprecedented precision in the placement of screws and other spinal hardware, thus minimizing human error and improving overall outcomes.

The role of advanced materials, such as biocompatible spinal implants and synthetic bone grafts, has further contributed to improved outcomes. These materials promote better healing, reduce the likelihood of implant-related complications, and enhance the long-term stability of spinal constructs.

Additionally, novel biologic therapies, such as stem cell treatments and platelet-rich plasma (PRP), are beginning to play a role in spinal fusion procedures, offering the potential for accelerated healing and enhanced tissue regeneration.

Even in Albania there is a transition that has followed the developments of spinal surgery in the world. If in the world it has been technological factors that have led this transition, in Albania there are also economic factors and isolation.

Before the 1970s, spinal surgery was performed by general surgeons and orthopedists. Then neurosurgery clinics were established and the main factor was the assistance of Chinese doctors. Complicated spinal interventions began to be performed. In 2006, instrumental spinal surgery began to be applied.

In conclusion, the transition to modern spine surgery represents a paradigm shift in the treatment of spinal disorders. The integration of minimally invasive techniques, advanced imaging, robotics, and patient-specific care has dramatically improved the safety, effectiveness, and recovery associated with spinal surgery.

As these technologies continue to advance, the future of spine surgery holds promise for even more precise, less invasive, and personalized treatments, ultimately leading to better outcomes and quality of life for patients.

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THE TARSAL TUNNEL SYNDROME (TTS) – A WIDELY UNDERESTIMATED PAIN SYNDROME

Carpal tunnel syndrome is a widely known and frequently operated compression syndrome. The similar compression syndrome in the feet – TTS – is rarely diagnosed and widely underestimated.

The upper Austrian foot clinic is specialized in treating posttraumatic, degenerative and neurological problems of the feet. Since 2024 more than 60 cases have been operated, with sufficient and good results in over 80% of our patients.

The key for sufficient therapy is an exact clinical examination and detecting the typical symptoms for compression of the tibial nerve (posterior TTS), which are more diffuse plantar forefoot pain in the sole without local tenderness like in metatarsalgia or hammertoes. Night pain. Often a difference in feeling in the first 3 toes in comparison to the 4th or 5th toe. A local pain behind the medial malleolus and a positive tinnel – hofmann sign behind the medial malleolus. In ore advanced cases, atrophy of the adductor muscle.

The rarer ant. TTS shows pain on the dorsum of the foot, an atrophy of the short tendon extensors and as well night pain and some numbness on the dorsum of the foot.

The key for diagnosis is NCV between ankle joint and toes bilateral and n addition between Knee and ankle joint to exclude PNP.

Non operative treatment with nerve traction exercises or 1x cortison injection is an option, but in our hands, most of the patients need a decompression. The decompression for the tibial nerve must be done from the region behind the medial malleolus into the sole and especially the adductor hallucis must be released, the peroneal nerve, which can easily see under the skin, must be released above the ankle joint.

A short immobilization cast after the operation is recommended, because the risk of getting a longer lasting lymphatic drainage and some wound healing problems – we do it for at least 2 weeks.

The success rate of this operation is over 80%, the tricks for diagnosis and for the operations will be presented.

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THERAPEUTIC ALGORITHM IN THE SURGICAL MANAGEMENT OF LOW BACK PAIN WITH OR WITHOUT SCIATICA

The rapid increase of morbidity from generative spine disorders in the developed socio-economic societies as the increase of postoperative morbidity led us continuously to the need of search of minimal invasive tecliniques.

The diachronic development of neuroimaging techniques from myelography, CT, to MRI scan have helped us considerably in the decision making for the big number of patients but not for all of them.

Invasive techniques like discography, radiculography, epidurography, CT-myelography and epiduroscopy in combination with classical neuroimaging techniques allow us to determine with grater accuracy the level of the pathology but also to determine and the way that we will intervene.

It is therefore very important for the spinal surgeon to have the possibility of recognizing with precision the level of pathology but also and the pathology itself.

The careful evaluation and synthesis of all clinical, radiographic data and continuously growth of technology (fiber optics, endoscopes, laser fibers etc) will be the true surgical art and not the simple application of the operative technique

The close collaboration with other relevant clinics and basic sciences will give us an extra opportunity of better selection of patients.

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MICROVASCULAR DECOMPRESSION IN THE TREATMENT OF TRIGEMINAL NEURALGIA DUE TO MEGADOLIC BASILAR ARTERY ANOMALY: TWO CASE STUDIES

Background:

Megadolicectatic basilar artery (BA) anomaly is a rare cause of trigeminal neuralgia (TN), resulting from direct neurovascular compression of the trigeminal nerve.

Cases:

We present two cases of right-sided pharmacoresistant TN caused by compression by a dolichoectatic basilar artery. A 62-year-old man with V2-dominant pain and an 82-year-old patient with prolonged V2-V3 TN had persistent symptoms despite medical and percutaneous treatments. Magnetic resonance imaging in both cases demonstrated a clear neurovascular conflict between the trigeminal nerve and the dolichoectatic BA.

Intervention and outcome:

Both patients underwent microvascular decompression via a retrosigmoid approach. Intraoperative findings confirmed posterior and inferior compression of the trigeminal nerve. Decompression was achieved with nerve mobilization and Teflon interposition.

Postoperatively, both patients achieved complete pain relief without neurological deficits, allowing gradual discontinuation of carbamazepine.

Conclusion:

Microvascular decompression is a safe and effective treatment for TN secondary to megadolicoectatic BA compression, even in elderly and high-risk patients.

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LUMBAR PAIN AND INFILTRATIONS UNDER CT - SCANNER GUIDANCE

If low back pain does not improve with conservative treatment, the cause of the pain should be determined before further therapy is initiated.

Information obtained from the patient’s medical history, physical examination, and imaging may be sufficient to exclude many common causes of chronic pain (e.g., fractures, malignancies, visceral or metabolic abnormalities, deformities, inflammation, and infections).

However, in most cases, the initial clinical and imaging findings have a low predictive value for identifying the specific spinal structures producing pain.

Diagnostic spinal injections performed in conjunction with imaging may be necessary to test the hypothesis that a specific structure is the source of pain.

To ensure a valid test result, diagnostic injection procedures should be monitored with fluoroscopy, computed tomography, or magnetic resonance imaging.

Controlled and comparative use of injections helps maximize the reliability of test results.

Once a symptomatic structure has been identified, therapeutic spinal injections can be administered as an adjunct to conservative management, especially in patients with inoperable conditions.

Therapeutic injections can also help accelerate the recovery of patients with persistent or recurrent pain after spinal surgery.

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IMAGING CHANGES IN PARASPINAL MUSCLES AND LUMBOPELVIC ROTATION AS BIOMECHANICAL FACTORS CONTRIBUTING TO CHRONIC LUMBAR PAIN: CLINICAL IMPLICATIONS FOR EPIDURAL INFILTRATION

Hyrje: Introduction: Chronic low back pain (CLBP) represents a major health problem, with considerable functional, social and economic impact. Epidural injections (ESI) under fluoroscopy or CT image guidance are among the most widely used interventions in pain anesthesia and interventional medicine.

However, beyond their strictly procedural role, CT and MRI examinations contain rich information on the structure and biomechanics of the lumbopelvic region, especially on the morphology of the paraspinal muscles and the segmental orientation of the spine, findings that often remain underestimated in routine clinical evaluation.

Purpose: This review aims to synthesize scientific evidence on imaging changes in paraspinal muscles and lumbopelvic rotation in patients with CLBP, interpreting these findings as biomechanical factors potentially contributing to pain persistence and variability in response to ESI.

Materials and methods: A structured narrative review of the contemporary literature was conducted on the imaging assessment of the lumbopelvic region on CT and MRI. The synthetic analysis focused on the multifidus, erector spinae, and psoas muscles, including: (i) muscle atrophy and fatty infiltration, (ii) reduced transverse surface area (CSA), (iii) bilateral asymmetry of the paraspinal muscles, and (iv) lumbar segmental rotation and pelvic obliquity. Furthermore, the way in which these parameters are reported on the imaging used for ESI planning was also examined.

Results: The evidence obtained demonstrated that patients with CLBP often present with selective atrophy of the multifidus and increased paraspinal fatty infiltration, associated with marked bilateral asymmetry. CT and MRI often reveal segmental rotation of the lumbar vertebrae and pelvic obliquity, reflecting biomechanical imbalance in the transverse and frontal planes.

These changes may contribute to non-uniform distribution of mechanical load, asymmetric tension of periarticular tissues, and chronicity of pain.

Furthermore, lumbopelvic structural variations may affect epidural drug distribution and, consequently, the clinical efficacy of ESI.

Conclusions: Paraspinal muscle atrophy and asymmetry, together with lumbopelvic rotation, constitute frequent and clinically relevant imaging findings in CLBP.

Systematic integration of these parameters in the interpretation of CT/MRI performed for ESI may enrich clinical assessment and support a more personalized approach to interventional pain management.

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TRIGEMINAL NEURALGIA, DIAGNOSIS AND INTERVENTIONAL TREATMENT

Trigeminal neuralgia is characterized by strong, intermitent pain in face.

This electrical, stubing pain is one of the strongest encountered in medicine.

Compresion of the intracranial segment of trigeminal nerve by a vessel is the most frequent cause.

Magnetic resonance imaging MRI is the most sensitive examination for evaluation of patients with trigeminal neuralgia.

MRI identifies neurovascular conflict or excludes other possible causes like tumors, multiple sclerosis plaques and neuroinfections.

Treatment methods are medicamentous treatment, neurosurgery and interventional treatment. Interventional treatment is now the trend for treating trigeminal neuralgia.

There are two methods percutaneous ballon compression PBC and percutaneous retrogasserian glycerol rhizotomy PRGR. In our practice we use the second method PRGR.

The study included 20 patients. Pain relief was achieved in 80% of cases immediately after procedure, in 20% of patients the procedure was unsuccessful.

No complications developed during the interventional procedures.

Our experience have showed tha PRGR treatment is the most efective and with longterm results in patients with trigeminal neuralgia.

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CURRENT CONCEPTS IN OZONE-BASED INTERVENTIONS FOR CHRONIC LOW BACK PAIN

Introduction: Chronic low back pain (CLBP) originates from multiple pain generators, including intervertebral discs, facet joints, nerve roots, paraspinal soft tissues, and degenerative spinal conditions.

Image-guided ozone therapy has emerged as a minimally invasive interventional technique with analgesic, anti-inflammatory, and immunomodulatory properties.

Aim: To evaluate the clinical effectiveness and safety of percutaneous ozone therapy in the treatment of chronic low back pain of various etiologies.

Methods: Patients with CLBP refractory to conservative management underwent CT- or fluoroscopy-guided percutaneous ozone injections targeting identified pain generators, including intradiscal, periradicular, and paraspinal applications.

Pain intensity and functional outcomes were assessed during follow-up.

Results: The majority of patients demonstrated significant pain reduction and functional improvement within weeks after treatment.

Ozone therapy was effective across different lumbar pain generators, with a high safety profile and no major complications.

Conclusion: Image-guided percutaneous ozone therapy is a safe and effective minimally invasive option for the management of chronic low back pain from diverse etiologies.

It represents a valuable tool in interventional radiology practice and may reduce the need for surgical intervention within a multidisciplinary treatment approach.

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MANAGEMENT OF CRANIOMANDIBULAR DISORDERS

Craniomandibular disorders (CMD) are a common cause of orofacial pain, involving dysfunction of the jaw joints and muscles. They do affect up to 75% of the population at some point. The pain can become chronic reducing quality of life, leading to long phases of sick leave and may even cause symptoms like depression.

Common symptoms include muscle pain in the face, neck, and jaw, headaches, limited range of motion of the TMJ and joint noises (clicking, popping, or grinding).

CMD can be caused by a large variety of issues like bruxism, trauma, stress and anxiety, or orthodontic issues. These disorders can also be closely linked to other conditions like fibromyalgia or migraine.

The diagnosis is made based on patient history, physical examination, and imaging like MRI or CT scans.

Whenever possible the treatment will be a conservative one including habit modification, counselling, non-steroidal anti-inflammatory drugs, physiotherapy and occlusal devices (mouthguards).

Management typically involves non-invasive methods like self-care, physical therapy, and splints, though severe cases may require surgery. Minor interventions include the injection of botulinum toxin in the masticatory muscles.

Arthrosis of the TMJ or degeneration of the articular disc might require open surgery.

A multidisciplinary approach is the most efficacious treatment of CMD. Early diagnosis is key. If all treatment options are adopted, adequately, patients have a good prognosis and chronic pain is avoided.

ILIR AGASTRA

THE TREATMENT OF LUMBAR DISC HERNIA WITH EPIDURAL/ CAUDAL OZONE INJECTION IN ALBANIA

Background: Low back pain is a common problem affecting about 40-80% of general population in life time. It is associated with significant economic, societal, and health impact.

The results of traditional open surgery for herniated intervertebral disc are often limited by complications and failed back surgery syndrome (FBSS). Over the years many percutaneous minimally invasive therapeutic modalities have evolved.

Ozone therapy is one of them and has showed promising results. I applied epidural/caudal ozone injections on patients with lumbar disc hernia.

Methods: more than 100 patients with clinico radiologic diagnosis of lumbar disc hernia are treated with epidural/caudal ozone injection (15-20 ml ozone 15-20 mcg/mL). Therapeutic outcome was assessed on visual analog scale (VAS).

In 15 cases the results are confirmed with MRI done 6-8 months after treatment.

Results: Pain intensity was significantly reduced following treatment (from baseline mean VAS 8-10 to 3-4 at one month, at six months follow up 1-2. Similarly, the MRI showed a significant resolution of disc hernias. No minor or major complications were observed in these cases.

Conclusions: It can be concluded that epidural ozone injection is highly effective in relieving low back pain due to lumbar disc prolapse.

PANAGIOTIS FILIPAS

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INTRAFORAMINAL OZONE THERAPY AND PARTICULAR SIDE EFFECTS PRELIMINARY RESULTS AND EARLY WARNING

Background: The term “low back pain syndrome” represents a complex nosological entity. The therapeutic approach is often only symptomatic and not etiologic.

Methods: Since 2013, 186 patients (97 males and 89 females, mean age 59.8 years) have undergone microsurgery for lumbar disc hernia or lumbar segmental stenosis.

Among these patients, 23 had been previously treated with ozone therapy by the intraforaminal approach and 28 by intraforaminal steroid injections in other hospitals between 12 and 24 months before our clinical evaluation.

These patients received 16 applications in an 8-week period (standard therapy).

Results: During the surgery, many hard adhesions between the soft tissues and bony structures were unexpectedly discovered. In particular, it was noted that the root was contracted and had firm adhesions to the dural sac and/or fragmented disc, which were difficult to resolve.

These specific pathological patterns were observed only in the patients who received ozone injections by the intraforaminal approach. We did not find any pathological abnormalities in the patients who did not receive any injections or who received intraforaminal steroid injections.

Thus, we could exclude that the tissue damage was due to the mechanical action of the needle.

Conclusion: It is important to assert that ozone therapy procedures can be associated with several major complications. Therefore, performing a revision of the guidelines and protocols for ozone therapy application is indispensable.

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CLINICAL PAIN NEURON" HYPOTHESIS: TARGETING TRPV1-EXPRESSING NEURONS FOR SELECTIVE ANALGESIA

Chronic pain remains a major unmet clinical need, compounded by the limited efficacy of current analgesics and the ongoing challenges associated with opioid-based therapies. The "Clinical Pain Neuron" hypothesis proposes that specific subpopulations of primary sensory neurons play a central role in mediating clinically relevant pain associated with tissue damage.

A key focus of this framework is the subset of nociceptive neurons expressing the transient receptor potential vanilloid 1 (TRPV1) ion channel, which is selectively present in a proportion of dorsal root ganglion (DRG) neurons. TRPV1 functions as a transducer of noxious thermal and chemical stimuli and is hypothesized to be critically involved in the transmission of both acute and chronic pain signals.

Resiniferatoxin (RTX), an ultrapotent TRPV1 agonist, has been developed as a targeted therapeutic agent capable of inducing selective chemo-axotomy of TRPV1-expressing neurons. Upon binding to TRPV1, RTX causes prolonged channel activation leading to sustained calcium influx and subsequent cellular dysfunction, effectively silencing nociceptive signaling from these neurons while preserving other sensory modalities.

Preclinical studies across multiple animal models, as well as early-phase clinical trials in patients with advanced cancer pain, have demonstrated that RTX administration can result in significant and sustained analgesia, accompanied by a reduction in opioid requirements. Importantly, this approach supports the concept that interruption of peripheral nociceptive input may be sufficient to attenuate pain perception, even in the presence of central sensitization.

These findings suggest that TRPV1-expressing neurons occupy a critical role in the nociceptive pathway and represent a promising target for the development of more selective and effective analgesic therapies. Further research is required to better define patient selection, optimal delivery methods, and long-term outcomes.

RABIT SADIKU

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TREATMENT OF PAIN WITH VIBROACOUSTIC

Background: Vibroacoustic treatment can be defined as the process of passing sound and vibration through tissues in order to improve blood circulation in the arterial and venous system, as well as the flow of lymph. Micro-vibrations are present in every living organism, including the plant and animal world, and of course also in humans. Sources of micro-vibrations can be internal (such as heart contractions, arterial muscle contractions, and muscle contractions) and external (plants-wind; for humans-shower; massage, physical activity, etc.) Knowing these facts, it is clear that vibroacoustic treatment responds to natural bio-micro-vibrations, and as such is absolutely harmless to the human body. Vibroacoustic treatment means the impact of micro-vibrations at frequencies of 20-1800Hz and with a maximum amplitude of up to 100 microns.

Materials and Method: The group of patients with pain was treated at Aku - Center - Gjilan - Kosovo. The treatment was done through Russian and German vibroacoustic devices. Age and gender were different. Medicines and other substances are not used during the treatment. Vibroacoustic treatment produces an analgesic effect. After the treatment, the tissues are strengthened, the pain is reduced, and the stress is removed. This study shows that "Vibroacoustic Treatment" has a fast action and reduces pain by 50% after just one treatment.

Results: Patients were treated twice a week according to the cycle of 6 sessions. Twenty-six (26) patients had one treatment. Two (2) treatments were sufficient for eighteen (18) patients. Six (6) of them had need for more than three (3) treatments. In percentage, a total of 15.6 sessions were done. After the treatment, thirty (30) patients were freed from pain, in 14 patients an improvement was observed, while in six (6) patients they were observed improvements. After six (6) months, 60% of the patients did not have a recurrence of pain. The stimulation points with TPV were the K point, and the local points. The treatment time at one point was from 1-15 minutes.

Conclusions: This study shows that Vibroacoustic Treatment has a fast action and reduces pain by 50% after just one treatment. Vibroacoustic treatment is applied very successfully in Russia, Europe and has started to be applied in other countries as well. In Kosovo it has been applied for two decades. It will soon be applied in Albania as well.

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ACUPUNCTURE AND ITS ROLE IN ACUTE AND CHRONIC PAIN MANAGEMENT

Introduction: Acute and chronic pain represent a significant clinical and socioeconomic burden, with a direct impact on the quality of life of patients.

Although pharmacological treatment remains the cornerstone of pain management, long-term use of analgesics, especially NSAIDs and opioids, is associated with side effects, tolerance and the risk of polypharmacy. In this context, there is growing interest in evidence-based complementary therapies, such as acupuncture.

The purpose of this presentation is to analyze the role of acupuncture in the management of acute and chronic pain, focusing on the mechanisms of action, clinical evidence, and implications for pharmacological practice and integrative medicine.

Methodology: A narrative review of the scientific literature was conducted, including meta-analyses, systematic reviews, and international guidelines (NICE, WHO, Cochrane Library), and clinical data from an observational study on the use of acupuncture in chronic pain were analyzed.

Results: Scientific evidence suggests that acupuncture is effective in reducing the intensity of acute and chronic pain, especially in musculoskeletal pain, migraine and low back pain.

The mechanisms of action include activation of endogenous opioids, modulation of neural pain pathways and reduction of inflammatory processes. The integration of acupuncture is associated with a decrease in the use of analgesics and an improvement in the safety profile of the treatment.

Conclusions: Acupuncture represents a valuable complementary therapy in the management of acute and chronic pain. Its integration into clinical practice, within a multidisciplinary approach, may contribute to the rationalization of pharmacological therapy and the improvement of patient care.

Further randomized studies are needed to more clearly define its role in standard pain treatment protocols.

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SOMETHING OLD, SOMETHING NEW: POSTOPERATIVE ANALGESIA WITH SYSTEMIC LIDOCAINE

Despite decades of progress in perioperative care, postoperative pain remains insufficiently treated and continues to represent a major clinical and organizational challenge. Opioid-based analgesia, still widely used as first-line therapy, is burdened by well-known adverse effects, including nausea, vomiting, constipation, ileus, and delayed recovery.

Although neuraxial techniques provide effective analgesia, their invasiveness, cost, and logistical demands limit widespread application. These limitations underscore the urgent need for effective, safe, and opioid-sparing alternatives.

Systemic intravenous lidocaine has emerged as a compelling and underutilized component of modern multimodal analgesia.

Accumulating evidence demonstrates that perioperative and postoperative lidocaine infusion significantly reduces pain intensity, opioid consumption, postoperative nausea, duration of ileus, and length of hospital stay. As a non-opioid, inexpensive, and easily administered agent, lidocaine aligns closely with enhanced recovery pathways and current efforts to minimize opioid exposure.

The analgesic effects of intravenous lidocaine extend beyond classical sodium channel blockade. Experimental and clinical data suggest a complex mechanism involving modulation of central sensitization, suppression of inflammatory responses, and antihyperalgesic effects. This broader pharmacological profile positions lidocaine not merely as an analgesic, but as a modulator of the surgical stress response.

Clinical benefits of lidocaine infusion are consistently demonstrated in abdominal and laparoscopic surgery, as well as in breast, thoracic, urologic, and gynecologic/obstetric procedures, with significant pain reduction observed in the first 24 postoperative hours.

While current evidence does not support a clear benefit in hip surgery, perioperative lidocaine has shown efficacy in major spine surgery, achieving meaningful pain reduction and opioid-sparing effects. Evidence regarding its impact on chronic postoperative pain—particularly in oncologic patients—remains limited, highlighting an important area for future research rather than a limitation of the concept itself.

In our institution, intravenous lidocaine has been systematically integrated into perioperative and postoperative pain management across different surgical specialties, with particular focus on orthopedic surgery and chronic cancer-related pain.

Although patient numbers remain limited, our preliminary results indicate clinically relevant analgesic benefits and support the feasibility and safety of this approach in routine practice.

In conclusion, intravenous lidocaine should no longer be viewed as an experimental adjunct but as a strategic analgesic tool in contemporary anesthesia practice. Its incorporation into multimodal analgesia protocols represents a paradigm shift toward opioid-sparing, recovery-oriented postoperative pain management.

For anesthesiologists seeking effective and practical solutions, systemic lidocaine offers not a replacement, but a powerful expansion of the analgesic armamentarium.

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ARTIFICIAL INTELLIGENCE FOR ASSESSMENT OF PAIN

Background: Pain assessment in infants and patients with cognitive disfunction is difficult because they cannot verbalize or self-report their discomfort. Currently, there is limited data on how caregivers recognize and handle this pain at home using standardized pain assessment tools.

Objective: This study aimed to explore how parents assess and manage pain in their infants at home after same-day surgery, utilizing standardized pain assessment tools.

Methods: We conducted a prospective study initially recruiting 109 infant boys undergoing same-day circumcision.

To evaluate pain at home over three days post-surgery, parents using iOS devices were instructed to use the PainChek Infant tool, an AI-enabled point-of-care device, while parents using Android devices used the Observer-Administered Visual Analog Scale (ObsVAS). Chi-square analysis compared the types of interventions and the presence of pain.

Generalized estimating equations were employed to assess construct validity and clinical utility, and receiver operating characteristic (ROC) analysis determined pain score thresholds in relation to the interventions used.

Results: A total of 69 parents completed postsurgery pain assessments at home and returned their pain diaries. Among these, 24 parents used ObsVAS, and 45 used PainChek Infant.

The most common pain interventions were feeding alone and feeding combined with medication. Over time, the presence of pain decreased. When pain was present, an intervention was more likely to be administered (χ^2=21.4; P<.001), with medicinal interventions being 12.6 times more likely (95% CI 4.3–37.0; P<.001) and nonmedicinal interventions 5.2 times more likely (95% CI 1.8–14.6; P=.002) compared to no intervention.

In cases where interventions were used, the pain score cutoff was ≥2 for PainChek Infant and ≥20 for ObsVAS. Statistical analysis showed significant associations between the use of the pain assessment instruments (χ^2=7.2, P=.007) and the use of interventions (χ^2=43.4, P<.001), supporting the construct validity of both tools..

Conclusions: The use of standardized pain assessment tools by parents at home enables more accurate pain identification and supports informed decision-making regarding pain management for their infants, including evaluating the effectiveness of interventions.

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CONSERVATIVE AND PHARMACOLOGICAL TREATMENTS FOR PAIN IN PALLIATIVE CARE: PRESENTATION OF THE LATEST 2025 MANUAL BY THE IAHPC (INTERNATIONAL ASSOCIATION FOR HOSPICE AND PALLIATIVE CARE)

Përmbledhje: Summary: Palliative care is a field in which pain management is essential for improving patients' quality of life. These abstract aims to present the use of essential medicines in pain management, based on the recommendations of the 2025 IAHPC manual, "Use of Essential Medicines for Palliative Care in Adults," in which I had the honor of participating as a member of the expert group.

My involvement in the development of this manual enabled in-depth reflection on the application of protocols that not only optimize pain management but also ensure that treatment is appropriate and affordable for patients across diverse economic and cultural settings.

Furthermore, the manual aims to support healthcare professionals worldwide in improving their practices for pain treatment and the management of other cancer-related symptoms.

Aims and Objectives:

• To review practices and protocols for the use of essential medicines in palliative pain management.

• To discuss challenges and opportunities for the wider use of these medicines in different healthcare and socio-economic settings.

• To present recommendations for improving pain management based on recent experience and research.

Methodology: The 2025 manual underwent a comprehensive and rigorous development process over more than two years, involving 57 experts from 57 countries.

The data and recommendations were analyzed by 21 experts from 21 countries, representing an exceptional analytical and consensus-based process. In addition, practical support mechanisms and challenges encountered in implementing these medicines in different countries were examined.

Results and Discussion: Experience in palliative care services in managing cancer-related and other types of pain has highlighted the need to provide personalized treatments based on patients' specific needs and healthcare system conditions.

The IAHPC manual offers valuable guidance for professionals seeking to implement shared standards and ensure high-quality patient care. Many of the contributing experts also hold important positions within the IASP.

Conclusion: The use of essential medicines for pain management in palliative care is a recognized and effective approach to improving patients' quality of life. The 2025 IAHPC manual provides a valuable guide for implementing and developing best global practices in this field.

My involvement in this project offered an opportunity to contribute to the advancement of these protocols and to support the development of clinical practice and the education of healthcare professionals.

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CHRONIC PAIN AND THE GUT MICROBIOME: A NEW PERSPECTIVE IN MEDICINE

Summary. The gut microbiome has emerged as an important component in the regulation of chronic pain. In addition to its well-known role in visceral pain, emerging evidence suggests that the microbiota may influence various forms of pain, including inflammatory pain, headache, neuropathic pain, and opioid tolerance.

Microbial mediators, such as metabolites, neurotransmitters, and bacterial byproducts, interfere with peripheral and central sensitization mechanisms, influencing neuroinflammation and neuronal excitability.

Objectives. These abstract aims to summarize current studies on the relationship between the gut microbiota and chronic pain, to describe the role of microbial mediators in pain regulation, and to evaluate the potential of microbiota modulation as a therapeutic strategy.

Methodology. This paper is based on a comprehensive review of the scientific literature, identified through a structured search in the PubMed, Scopus, Web of Science and Embase databases, with the inclusion of experimental, translational and clinical studies published over the last 15 years.

Conclusions: The gut microbiota significantly influences peripheral and central sensitization processes, through the modulation of neuroinflammation and neuroimmune interactions.

Current studies suggest that interventions aimed at balancing the microbial balance, including dietary modifications, probiotics, prebiotics and pharmabiotics, present therapeutic potential for the management of chronic pain.

Although the results are promising, controlled studies are needed to define standardized approaches and to better understand the underlying mechanisms.

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STRENGTHENING POSTOPERATIVE PAIN MANAGEMENT PRACTICES: A FIVE-YEAR OBSERVATIONAL STUDY FROM KOSOVO

Introduction: Postoperative pain remains a significant clinical challenge in Kosovo due to the absence of unified national guidelines. Pain management practices are largely dependent on individual clinician preferences, which has led to variability in care and suboptimal pain control.

Recognizing the negative impact of inadequately treated postoperative pain on patient outcomes, recovery, and satisfaction, this study aimed to evaluate current postoperative pain management practices and to propose evidence-informed recommendations for improvement.

Methodology: A quantitative observational study was conducted over a five-year period at the General Hospital of Prizren. Data were collected from patients undergoing surgical procedures in general surgery, urology, orthopedics, otorhinolaryngology (ENT), ophthalmology, and gynecology/obstetrics. Pain-related patient-reported outcomes (PROs) and process-related data were assessed on the first postoperative day.

All participants provided oral informed consent. General anesthesia was the most frequently used anesthetic technique.

Results: Women constituted 66.2% of the study population. The overall mean maximum postoperative pain score was 5.38/10, while the mean minimum pain score was 1.17/10. Patients undergoing general and abdominal surgery reported the highest pain intensity (mean maximum pain 6.06/10), whereas the lowest pain scores were reported in ophthalmologic procedures (mean maximum pain 1.94/10).

Key findings highlighted several areas for improvement in daily clinical practice, including the routine use of multimodal analgesia combining pharmacological and non-pharmacological interventions, systematic pain assessment, continuous documentation, and administration of analgesics based on scheduled protocols rather than solely on an “as-needed” basis.

A notable observation in obstetric patients was the paradoxical increase in pain shortly after receiving analgesic injections. Further analysis revealed that intramuscular analgesics (e.g., diclofenac) were frequently administered concomitantly with uterotonic agents (oxytocin), leading to uterine contractions and increased pain.

This association was misinterpreted by patients as analgesic failure. The issue was successfully mitigated by administering these medications separately at different time intervals.

Conclusion: Patients undergoing surgical procedures reported moderate to severe postoperative pain, indicating insufficient pain control within current practices. Systematic pain assessment should be integrated into routine vital sign monitoring.

Based on these findings, we strongly recommend the implementation of structured postoperative pain management programs, standardized protocols, and care policies that embed pain management into standing orders, clinical pathways, and patient charts. Such measures are essential to improve postoperative outcomes and quality of care in Kosovo.

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BIOLOGICAL THERAPY IN CHRONIC PAIN

Biologic drugs are a type of treatment to control inflammation throughout the body. They are often used if other medications such as steroids, NSAIDs, or immunosuppressants or immunomodulators have not been effective in controlling disease activity, or if we have experienced side effects from them.

Biologic drugs can treat chronic inflammatory diseases as well as autoimmune diseases. Biologic drugs can effectively control chronic inflammation and pain, preventing the need for corticosteroids and NSAIDs.

Corticosteroids and NSAIDs can become less effective over time, and the risk of negative side effects increases the longer you use them.

There are four types of biologic drugs, each with a unique inflammatory target: Tumor Necrosis Factor-α (TNF) inhibitors, B-cell inhibitors, Interleukin inhibitors, and Selective Co-stimulatory Modulators.

Biological therapies work by reducing inflammation in the body, which can lead to less pain, less stiffness and more range of motion. This means you can get up faster in the morning, have an easier time doing your daily activities, be able to exercise more and sleep better.

Biological therapies should give you a better quality of life. It is thought that about 8 out of every 10 people will have a significant response to biological therapies. Studies have shown that many patients with chronic diseases can experience significant improvement from biological therapies.

Patients generally tolerate these treatments well, but sometimes they have to stop them because of side effects.

Biological therapies are currently considered the future of chronic pain therapy.

AGRON BYTYQI, ZAMIRA IMERAJ, FADIL KRYEZIU, ADEM BYTYQI

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NURSES' PERCEPTIONS OF CHRONIC PAIN IN PRIMARY HEALTHCARE

Hyrje: Introduction: Chronic pain represents a significant public health problem, with a sustained impact on patients' quality of life and on the utilization of health care services. Primary health care is the main level at which this condition is identified and managed, while nurses play an important role in pain assessment, patient follow-up, and health education. However, the way chronic pain is perceived and managed by nurses remains variable and often lacks uniformity.

In Kosovo, chronic pain management in primary care is further challenged by the absence of standardized protocols and clear clinical guidelines, as well as by the lack of nurses specifically trained or profiled in pain management.

Aim:The aim of this study was to assess nurses' perceptions, knowledge, and practices related to the assessment and management of chronic pain in primary health care in the Municipality of Prizren, and to identify key gaps in education, documentation, and the use of standardized pain assessment tools.

Methodology: This was a quantitative, descriptive, cross-sectional study. Data were collected using a structured, self-administered questionnaire completed by nurses, which included indicators on: basic knowledge of chronic pain, perception of pain as a subjective experience, use of pain assessment scales (NRS/VAS), documentation practices, use of pharmacological and non-pharmacological interventions, and needs for continuing professional education. A total of 68 nurses employed in primary health care centers in the Municipality of Prizren participated in the study.

Results:The results showed that most nurses perceive chronic pain mainly through objective signs and patients' verbal reports (approximately 60%), while only a smaller proportion consider systematic subjective assessment as a standard practice.

Only 25% of respondents reported routine use of standardized pain assessment scales, whereas documentation of chronic pain in health records was insufficient in more than 70% of cases. Pain management was dominated by pharmacological interventions, while non-pharmacological techniques (patient education, positioning, relaxation, adapted physical activity) were reported as being rarely used.

The majority of nurses reported a lack of structured training and standard protocols for chronic pain management in primary care.

Conclusions: This study highlights an urgent need to strengthen nurses' professional capacities in primary health care through continuing education, implementation of contemporary guidelines, standard operating procedures, and the integration of systematic chronic pain assessment and documentation as part of routine care. Improving nurses' perceptions and practices is essential for delivering high-quality, comprehensive, and evidence-based care to patients living with chronic pain.

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PAIN AND PUBLIC HEALTH IN THE WORLD 2025

Introduction: Pain represents one of the leading causes of the global burden of morbidity and disability, with a direct impact on public health systems. By 2025, acute and chronic pain is increasingly recognized as an independent public health problem, closely linked to population aging, noncommunicable diseases, social inequalities and limited access to quality health services.

Objectives: This literature review aims to analyze global trends in pain in the context of public health, identify the main determinants and evaluate current management approaches at the population level.

Methodology: A narrative review of the scientific literature published during the period 2018–2025 was conducted, using international databases such as PubMed, WHO and The Lancet. Global reports, meta-analyses and policy guidelines relevant to pain and public health were included.

Results: Evidence shows that chronic pain affects over 20% of the global adult population and is a major contributor to lost productivity and health costs. Pain management remains fragmented, with overlap between opioid overuse in high-income countries and lack of access to basic analgesics in low- and middle-income countries.

Recommendations: There is a need to integrate pain into national public health policies, strengthen multidisciplinary approaches, increase professional education, and develop equitable strategies for universal access to pain management.

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THE PODO-POSTURAL APPROACH IN THE ASSESSMENT AND MANAGEMENT OF GAIT AND POSTURAL DISORDERS IN CHILDREN AGED 9–16 YEARS

Introduction: Postural and gait disorders in the pediatric population are increasingly common and are often associated with musculoskeletal pain, functional fatigue, and a risk of progression of postural deformities during growth. Early identification and a structured therapeutic approach are essential to prevent long-term complications and improve quality of life.

Objectives: The aim of this presentation is to describe the podo-postural approach as a clinical method for the assessment and management of gait and postural disorders in children aged 9–16 years, emphasizing the integration of physical and computerized evaluation.

Methods: The podo-postural approach is based on an integrated physical and computerized assessment. Physical evaluation includes anthropometric measurements, postural analysis, and the Adams test performed with a scoliometer to identify trunk asymmetries. Computerized assessment involves 3D postural analysis in all three planes, static and dynamic gait examination, and photographic documentation for longitudinal monitoring. Based on the collected data, podo-postural therapy is applied to correct plantar support and promote biomechanical reorganization of the postural chain.

Conclusion: The podo-postural approach represents a modern, non-invasive, and personalized method for managing gait and postural disorders in pediatric patients. The integration of clinical assessment with advanced technology contributes to pain reduction, prevention of postural and foot deformity progression, and improvement in quality of life.

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THE ROLE OF PHYSIOTHERAPY IN THE MANAGEMENT OF CHRONIC PAIN ASSOCIATED WITH CENTRAL SENSITIZATION

Introduction: Chronic pain represents one of the most complex challenges in contemporary clinical practice, often persisting even in the absence of evident structural damage. In recent decades, the concept of central sensitization has gained particular importance in explaining the neurophysiological mechanisms underlying persistent pain. This process is characterized by increased sensitivity of the central nervous system, leading to amplification of nociceptive signals and continuous pain perception. In this context, modern physiotherapy plays a key role in pain management through evidence-based and neuroscience-informed approaches.

Objective: The aim of this paper is to analyze the role of physiotherapy in the management of pain associated with central sensitization and to highlight the main therapeutic interventions that contribute to modulation of the nervous system and improvement of clinical function in patients with chronic pain.

Methodology: A narrative review of the scientific literature was conducted using electronic databases such as PubMed, Scopus, and Google Scholar. Studies published in recent years addressing central sensitization, pain neurophysiology, and physiotherapeutic interventions in populations with chronic musculoskeletal pain were included. The analysis focused on pain neuroscience education, graded therapeutic exercise, and strategies of gradual exposure to movement.

Results: Evidence indicates that physiotherapeutic interventions aimed at modulating the central nervous system led to a reduction in pain intensity, improvement in function, and decreased fear of movement. Pain education and individualized exercise programs were found to be particularly effective in reducing central sensitization.

Conclusions: Central sensitization represents a fundamental mechanism in chronic pain and requires an advanced therapeutic approach. Modern physiotherapy, grounded in neurophysiology and clinical evidence, plays a decisive role in pain management and in improving patients' quality of life.

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TREATMENT OF HEADACHES WITH ACUPUNCTURE

Introduction and Purpose: Acupuncture is a medical science that deals with the study and recording of information of the organism at certain points. These points help in diagnosis and treatment.

There are 657 points in total, only the earlobe has 200 points. Stimulating these points helps in relieving pain. Migraine is a disease of psychosomatic origin. It is mainly treated with Analgesics and without success.

Recent studies are showing that Acupuncture has yielded results in many countries of the world in the fight against pain such as migraines and various diseases. This study shows the success of Acupuncture in Kosovo and Albania.

Methodology: Patients with headaches have been successfully treated by stimulating pain points such as: LI 4, ST 36, ST 44, DU 20, local points, distal points. Stimulation was also done with an electrostimulator for a duration of 20 minutes with frequencies up to 1000 Hz.

Results: Patients were treated twice a week according to a cycle of 10-12 sessions.

Twenty-six (26) patients had one treatment. Two (2) treatments were sufficient for eighteen (18) patients. Six (6) of them needed more than three (3) treatments.

A total of 15.6 sessions were performed. After treatment, thirty (30) patients were free from pain, 14 patients showed improvement, and six (6) patients showed improvement. After six (6) months, 60% of patients did not have a relapse.

Conclusions: In the European Union, acupuncture is applied in private and public clinics. All patients I treated had previously been treated with medication. This method remains to be spread in Albania and Kosovo.

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THE EFFECTIVENESS OF TRACTION THERAPY VS. MANUAL THERAPY IN FIRST-LINE TREATMENT OF LUMBAR HERNIATED DISC: A SYSTEMATIC REVIEW

Background and Purpose: Lumbar herniated disc (LHD) is a common condition causing significant pain and disability. This systematic review aimed to evaluate the efficacy of traction therapy compared to manual therapy in reducing pain and improving function in patients with LHD.

Materials and Methods: We conducted a comprehensive search of PubMed, Cochrane Library, EMBASE, and Physiotherapy Evidence Database (PEDro) for randomized controlled trials (RCTs) comparing traction therapy with manual therapy for LHD.

Pain intensity, disability level, and neural mobility were assessed using visual analog scales (VAS), the Oswestry Disability Index (ODI) and neural mobility test.

Results: Both treatment modalities showed significant improvement in pain reduction and functional mobility. However, patients in the manual therapy group demonstrated faster and more sustained improvements in pain relief and disability reduction

Conclusion: Both manual mobilization therapy and traction therapy can be effective in managing lumbar herniated discs. However, manual mobilization therapy often emerges as the more effective primary approach due to its ability to address underlying biomechanical factors and improve mobility, which are crucial for long-term recovery. While traction therapy can provide temporary relief by reducing pressure on the nerve root and is mostly recommended in specific case due to its potential risk. Further research is warranted to clarify the optimal treatment strategies for individual patients with LHD.

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FROM EDUCATION TO PRACTICE: THE ROLE OF PAIN MANAGEMENT CURRICULUM IN REDUCING THE ECONOMIC BURDEN AND IMPROVING THE QUALITY OF LIFE OF PATIENTS WITH CHRONIC PAIN

Introduction: Chronic pain is a major public health problem with significant clinical, social and economic consequences. It is associated with high direct and indirect costs, including healthcare costs, lost productivity and reduced quality of life, constituting a significant burden on national economies.

Purpose: This paper aims to analyze the economic burden of chronic pain and to evaluate the role of integrating pain management education into undergraduate curricula as an effective strategy for reducing these costs and increasing quality of life.

Methodology: A narrative review of the international literature on the economic costs of chronic pain and on the current level of education on pain management in university programs was conducted. Studies were analyzed that evaluate the impact of educational interventions on the knowledge, attitudes and clinical practices of students and future health professionals in increasing quality of life and reducing economic costs.

Results: Evidence shows that chronic pain can reach up to 4% of Gross Domestic Product in some European countries. Studies report a lack of structured education on pain management in many university curricula. However, specific educational interventions significantly improve clinical knowledge and skills, promote evidence-based approaches and reduce the use of ineffective treatments and long-term health costs.

Conclusion: Integrating pain management education into bachelor's curricula represents a strategic investment in improving healthcare and reducing the economic burden of chronic pain.

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ANATOMICAL CHARACTERIZATION OF A GABA-RECEPTIVE CELLULAR POPULATION INVOLVED IN ANESTHETIC-INDUCED LOSS OF CONSCIOUSNESS VIA THE MESOPONTINE TEGMENTAL ANESTHESIA AREA (MPTA).

General anesthesia is not simply a passive shutdown of the cortex but an active, state-transition orchestrated by subcortical circuits. In particular, the mesopontine tegmental anesthesia area (MPTA) has emerged as a critical brainstem hub where engagement of GABAA receptors produces rapid and reversible loss of consciousness (LOC), muscle atonia, and analgesia.

Previous studies have identified effector neurons that project to both ascending forebrain and descending spinal targets, driving cortical suppression, muscle atonia, and analgesia. The MPTA connectivity model proposes that anesthesia is induced by GABAergic agonists binding to extrasynaptic GABAARs, thereby silencing their activity and releasing the effector neurons from tonic inhibition, whose activation causes the anesthetic effect.

My doctoral thesis consists of investigating this population of GABAAR-δ subunit-containing cells in the MPTA “δ-cells”, as a homogenous, small (7-8 μm in diameter), elliptical, and abundantly expressed cellular population in the MPTA (density 543 ± 9.4 cells/mm^2). The δ-cells lack expression of conventional neuronal markers such as NeuN and Neurofilaments (NF), and only a small fraction of the δ-cells were immunoreactive to the pan sodium channel marker (PanNav = 8.5%).

Similarly, neither anterograde nor retrograde tracing, using neuron-specific viral (AAV) or classical tracers such as cholera toxin β-subunit CTB, or wheat germ agglutinin (WGA), successfully labelled δ-cells, implying a non-neuronal identity. Neurobiotin tracing showed that the vast majority of the δ-cells lack any dendritic processes, exhibiting only, in rare cases, short dendritic extensions.

Transmission electron microscopy (TEM) further confirmed that δ-cells lack any classical synapses, their oval somata were devoid of presynaptic vesicle clusters or post-synaptic densities, and no axonal processes were ever observed.

Immunoprobing determined high co-expression with the astrocytic marker ALDH1L1 and the oligodendrocyte marker Olig2 (99% and 91%, respectively), but no overlap was observed with the glial fibrillary acidic protein marker (GFAP), aquaporin-4 (AQP4), or microglial markers Iba1 and CD68. Taken together, these findings suggest that GABAergic agonists in the MPTA target a previously unknown neuro-glial cellular population, positioning non-neuronal cells as novel modulators of anesthetic induction.

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