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ОСОБЕННОСТИ БОЛЕВОГО СИНДРОМА

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Аннотация

Введение. Боль – причина частых медицинских консультаций, и поэтому она является предметом многочисленных исследований, относящихся как к фундаментальной, так и к клинической науке. Многие патологии сопровождаются болевыми ощущениями, однако в редких случаях болевой синдром имеет неясный или блуждающий характер. Цель исследования – изучить различные виды и особенности болевого синдрома, выделить общие методы лечения рекомендации к лечению. **Материал и методы.** В ходе исследования был проведен анализ зарубежной и отечественной литературы и полученных результатов исследования в поликлиниках № 37, № 56 и № 102 Департамента здравоохранения г. Москвы и в поликлинике № 3 Центральной клинической больницы Российской академии наук., обобщены понятия болевого синдрома. **Результаты.** Анализ литературы позволил выявить, что боль представляет собой феномен, включающий в себя множество уникальных переживаний, которые обусловлены различными причинами и обладают определенными качествами. Эти качества проявляются в различной изменчивости в зависимости от таких критериев, как: соматосенсорный, висцеральный, эмоциональный и когнитивный. Анализ исследования показал, что для устранения болевого синдрома эффективно использовать кетерол и кетопрофен. **Выводы.** Болевой синдром по своему происхождению и развитию отличается большим разнообразием. Это явление усложняет задачу достижения удовлетворительного определения боли. Современный профессиональный подход к лечению болевых синдромов должен предусматривать знание патофизиологии, психофизиологии, систематическое обследование пациента и дифференцированное индивидуализированное лечение.

Ключевые слова: болевой синдром, Комплексный регионарный болевой синдром, боль, синдром, медикаменты, пациенты, лечение.

FEATURES OF THE PAIN SYNDROME

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Abstract

Introduction. Pain is the cause of frequent medical consultations, and therefore it is the subject of numerous studies. Many pathologies are accompanied by pain, but in rare cases, the pain syndrome has an unclear or wandering character. **The aim of the study** is to research the various types and features of pain syndrome, to identify common methods of treatment and treatment recommendations. **Material and methods.** In the course of the study, an analysis of foreign and national literature was carried out and the analysis of the obtained research results in polyclinics No. 37, No. 56 and No. 102 of the Moscow Department of Health and in Polyclinic No. 3 of the Central Clinical Hospital of the Russian Academy of Sciences., the concepts of pain syndrome are generalized. **Results.** In the course of studying the relevant material of foreign and domestic literature, an analysis of this topic was carried out. He revealed that pain is a phenomenon that includes many unique experiences that are caused by various causes and have certain qualities that manifest themselves depending on criteria such as somatosensory, visceral, emotional and cognitive. The analysis of the study showed that ketorolac and ketoprofen are effectively used to eliminate pain syndrome. **Conclusion.** Pain syndrome has a wide variety of origins and development. This phenomenon has complicated the task of achieving a satisfactory definition of pain. A modern professional approach to the treatment of pain syndromes should include knowledge of pathophysiology, psychophysiology, systematic examination of the patient and differentiated individual treatment.

Keywords: pain syndrome, complex regional pain syndrome, pain, syndrome, drugs, patients, treatment.

INTRODUCTION

Pain is an unpleasant sensory or emotional sensation associated with possible tissue damage. In clinical practice, superficial and deep pain are distinguished. Superficial pain most often has a clear localization and acute form (fig. 1), often accompanied by changes in the skin or nearby structures. Deep pain is dull and characterized by less pronounced localization, sometimes spreading to neighboring areas or through the Zakharyin-Ged zones [1].

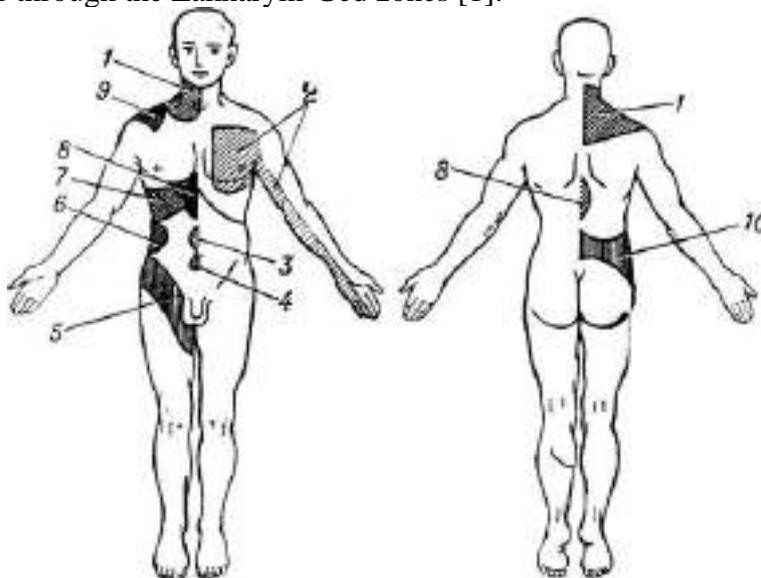


Fig. 1 Diagram of the location of some Zakharyin-Ged zones on the torso and limbs, in which referred pain may appear in a number of diseases of the internal organs: 1 - lungs and bronchi; 2 - hearts; 3 - intestines; 4 - bladder; 5 - ureter; 6 - kidneys; 7 and 9—liver; 8 - stomach, pancreas; 10 - genitourinary system

Pain syndrome, or algosyndrome, is a complex set of painful sensations of varying intensity. It usually occurs in the area of underlying pathology, such as trauma, vascular spasm, diseased organ or joint, but can sometimes be vague or wandering in nature.

There are several classifications of pain syndromes based on various signs of pain, including its sensory quality (sharp, dull), intensity, localization, emotional, autonomic and motor manifestations, and others. The most common classification is to divide pain into the following categories:

1. According to time characteristics:

- Acute pain lasts less than 3 months, corresponding to the healing time of the tissue after damage. It is a natural signal of ongoing or incipient damage and is usually well localized.
- Chronic pain continues after its cause has been eliminated and lasts more than 3 months. Its duration and intensity often do not correspond to the degree of damage and include pathological pain, which can be chronic, destabilizing and/or maladaptive to the body.

2. By location of damage:

- Somatic superficial pain that occurs when the skin is damaged.
- Somatic deep pain that occurs when the musculoskeletal system is damaged.
- Visceral pain associated with damage to internal organs.
- Central pain.

Also identified are headaches, back pain, cardialgia, abdominalgia, thoracalgia, pain in the limbs, fibromyalgia and others.

3. By etiology:

- Post-traumatic pain.
- Postoperative pain.
- Pain due to cancer.
- Pain as a result of inflammatory, degenerative and other diseases.

4. By distribution:

- Local (local) pain associated with direct irritation of nociceptors. The localization of pain does not always coincide with the site of irritation and can be observed when nerve roots or peripheral nerves are damaged.

- Projection pain that spreads far from the source of irritation.

- Referring pain, spreading from the innervation zone of one nerve to the innervation zones of others.

- Referred pain resulting from the spread of pain in a specific skin area associated with the innervation of damaged structures. Knowledge of the dermatomes where such “referred” pain from internal organs occurs is important for diagnosing internal diseases (Zakharyin-Ged zone).

5. According to pathogenesis (Merskey H. et al., 1994):

1. Nociceptive pain associated with activation of pain nociceptors, for example, during injury, inflammation, ischemia or excessive tissue stretching.

2. Neuropathic pain caused by damage and dysfunction of the peripheral or central nervous system.

3. Psychogenic pain, which is not explained by organic pathology or pathophysiological mechanism and is associated with psychosocial factors. Examples of such pain are fibromyalgia, tension headaches and psychogenic pain. 4. Mixed (complex regional pain syndrome, chronic postoperative pain, irritable bowel syndrome, interstitial cystitis, vulvodynia, chronic pelvic pain, radiculopathies). [2,3,4]

Features of the pain syndrome:

1. Complex regional pain syndrome (hereinafter referred to as CRPS) is a poorly understood chronic pain condition of multifactorial origin. CRPS includes sensory, motor, and autonomic symptoms that primarily affect one limb. Patients may also experience neuropsychological changes, such as decreased attention to the CRPS-affected limb, reminiscent of hemispatial neglect, but in the absence of any brain damage.

2. For diagnosis, it is important to characterize pain according to the patient himself: sharp, dull, aching, cutting, stabbing, burning, etc. Identification of the type of pain is carried out in order to determine the possible pathophysiological mechanism and select drug therapy that can specifically influence these pain mechanisms. Personality characteristics determine a person’s reaction to pain and pain behavior, the ability to tolerate painful stimuli, the range of emotional sensations in response to pain and ways to overcome it.

Thus, different types of pain make it very difficult to make a correct diagnosis. Therefore, it is important to study pain syndrome. Understanding it makes it possible to narrow the scope of the study of the disease and simplify the formulation of a medical report (diagnosis), prescribe the correct treatment and assess the general condition of the body. Also, understanding the patient’s pain behavior, as a feature of the pain syndrome, will allow us to assess the patient’s true condition. [5].

The aim of the study is to study various types and characteristics of pain syndrome, highlight common treatment methods and treatment recommendations.

MATERIAL AND METHODS

In the course of the study, an analysis of foreign and domestic literature was carried out and general concepts of pain syndrome were identified, followed by an analysis of the study conducted in polyclinics No. 37, No. 56 and No. 102 of the Moscow Department of Public Health and in Polyclinic No. 3 of the Central Clinical Hospital of the Russian Academy of Sciences.

95 patients (35 men and 60 women) aged from 20 to 68 years (average age - 54.6±10.6 years) were observed. Pain syndrome in patients was caused by the following diseases: arthropathy (rheumatoid arthritis - 1, gouty arthritis - 2, osteoarthritis deformans - 37 cases), dorsopathies (osteochondrosis - 30), spondylopathy (ankylosing spondilitis - 1, spondylosis - 1), soft tissue lesions (tenosynovitis - 3, bursitis - 1, neuralgia - 6, neuritis - 2), musculoskeletal injuries (fractures - 2, bruises - 3), pulpitis - 1, postoperative fistula of the anterior abdominal wall - 1, urolithiasis - 2, ingrown toenail - 1, heel spur - 1, chronic venous insufficiency - 1 case. There were no contraindications for the use of the drugs. [6]

RESULTS

At the start of the study, 34 patients (36%) had previous therapy with analgesics or non-steroidal anti-inflammatory drugs (mainly in the form of ointments, gels), the effect of which was absent or insignificant.

The patients were divided into 2 groups comparable by gender, age, nature of the disease and severity of pain. Patients of group I (52 people) received ketorol. Patients of group II (43 people) received a comparison drug - ketoprofen. The maximum duration of treatment was 5 days. On the first day, the drugs were administered mainly intramuscularly, and over the next 4 days - orally. The doses of drugs and the frequency of their administration depended on the severity of the pain syndrome. The maximum single and daily doses of drugs are presented in table (Table 1).

Table 1.

Maximum single and daily doses of drugs

A drug	Parenteral use			Oral use			Course duration (max.)
	Single dose (max.)	Frequency of reception (max.)	Daily dose (max.)	Single dose (max.)	Frequency of reception (max.)	Daily dose (max.)	
Ketorol	30 mg	3	90 mg	10 mg	4	40 mg	5 days
Ketoprofen	100 mg	2	200 mg	50 mg	3	200 mg	5 days

Over the subsequent days of regular use of the drugs, a significant regression of the pain syndrome is observed (Table 4), and when using Ketorol, a positive effect is achieved with a dynamically decreasing daily dose of the drug (fig. 2). [7]

Thus, the study demonstrated the clinical effectiveness and safety of average therapeutic doses of ketorol in the treatment of patients with acute pain syndrome of various origins for 5 days. When using ketorol, a more rapid regression of pain syndrome was observed on the first day of treatment and a greater number of good and excellent treatment results (96%; average score 2.38 0.07), compared with ketoprofen (82-86%; average score 2.23 0.11), as well as a smaller number of side effects (4 vs. 6), which did not lead to the need to discontinue the drug.

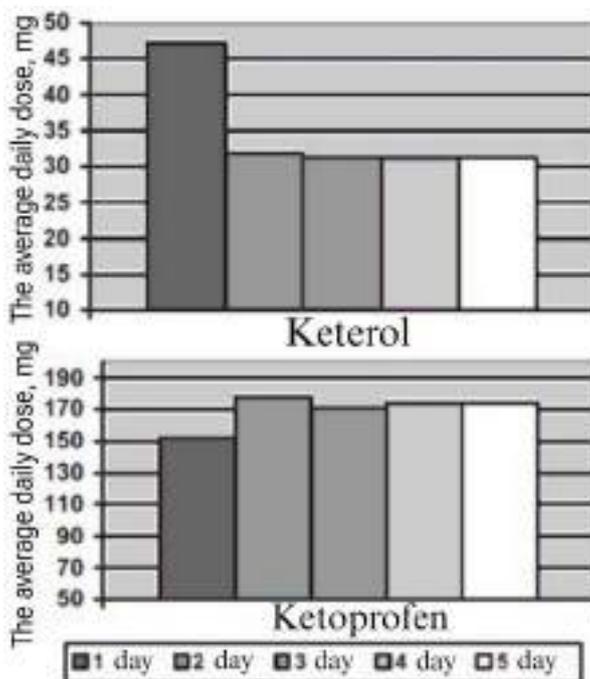


Fig. 2 Dynamics of average daily doses of drugs during treatment

The results of the study allow us to recommend ketorol for widespread use in outpatient practice for diseases accompanied by acute pain syndrome.

DISCUSSION

Among the variety of possible sources of pain, the latter is described as a complex of pain sensations resulting from pathological changes in the body. Modern treatments aim to address different aspects of these pain sensations:

1. Elimination of the main source of pain and restoration of damaged tissue.
2. Targeting peripheral components of pain, including somatic factors (eg, reduction of inflammation and swelling) and neurochemical stimulators of pain receptors.
3. Suppression of the transmission of pain signals along peripheral nerves.
4. Regulation of processes occurring in the dorsal horns of the spinal cord.
5. Targeting the psychological (and therefore neurochemical) aspects of pain with psychotropic drugs.
6. Elimination of activation of the sympathetic nervous system in chronic pain syndromes.

Recent studies have shown that the drugs Ketorol and Ketoprofen are among the most effective means in the fight against pain.

CONCLUSION

1. Pain syndrome is a complex set of painful sensations of varying intensity. Pain has a wide variety of classifications, which complicates the diagnosis.

2. Features of the pain syndrome - a little-studied chronic pain condition of multifactorial origin, which affects the limb and can affect the functioning of the brain, without damaging it. And the difficulty in identifying pain syndrome due to the characteristics of human reactions to pain and pain behavior, the ability to tolerate painful stimuli, the range of emotional sensations in response to pain and ways to overcome it.

3. A modern professional approach to the treatment of pain syndromes should include knowledge of pathophysiology, psychophysiology, systematic examination of the patient and differentiated individualized treatment. Recent studies have shown that the drugs Ketorol and Ketoprofen are among the most effective means in the fight against pain.

LIST OF REFERENCES

1. Магажанов, Р.В. Болевые синдромы в неврологии: учебное пособие / Р.В. Магажанов, Р.А. Ибатуллин. – Уфа : ФГБОУ ВО БГМУ Минздрава России, 2021. – 91 с.
2. Петровский, Б.В. Большая Медицинская Энциклопедия (БМЭ) / Б.В. Петровский. – Москва : Советская энциклопедия, 1974–1988. – 51 с.
3. Неврология болевых синдромов: медикаментозные блокады: учебное пособие / Е.С. Королева, Н.В. Пугаченко, В.М. Алифиорова [и др.]. – Томск : СибГМУ, 2019. – 102 с.
4. Болевые синдромы и диагностика боли / В.И. Грачёв, И.О. Маринкин, И.Ю. Святенко, В. В. Батырев // Norwegian Journal of Development of the International Science. – 2021. – № 56-2. – С. 50-67.
5. Neuropsychological Changes in Complex Regional Pain Syndrome (CRPS) / M. Halicka, A. D. Vitters, M. J. Proulx, J. H. Bultitude // Behavioural Neurology. – 2020. - № 2020. – P. 4561831.
6. Шавловская, О.А. Клиническая эффективность и переносимость кеторолака в терапии болевых синдромов / О. А. Шавловская // Consilium Medicum. – 2013. – Т. 15, № 2. – С. 85-88.
7. Болевой синдром в поликлинической практике: Кеторол / Г.И. Брагина, Л.А. Виноградова, Ю.М. Горшкова [и др.] // Вестник семейной медицины. – 2006. – № 2. – С. 44-47.

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