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CAUSES, DIAGNOSIS AND TREATMENT OF PAIN IN THE LOWER BACK

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ABOUT ARTICLE

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Abstract: Syndrome pain V bottom parts backs (BNS) wide common And is one from leading temporary reasons loss ability to work. IN review are being considered basic causes emergence LBP, factors, promoting her development. Given basic signs, requiring in-depth examinations patient With BNS For exceptions specific nature diseases. IN compliance With modern glances on problem are analyzed basic directions treatment patients With BNS. Emphasizes necessity active participation himself sick V medicinal process. Are given recommendations for medicinal treatment given contingent patients.

INTRODUCTION

Syndrome pain V bottom parts backs (BNS) characterized by the emergence painful sensations and discomfort in the area limited from above I X a couple ribs A from below — gluteal folds. Simultaneously with LBP, pain may be present, radiating to the leg, usually caused by compression of the spinal roots.

Today, most researchers note the extremely wide prevalence of LBP . Counts, What every fourth adult inhabitant USA V flow latest three months, By edge at least on throughout alone days experienced intense pain in the lumbar region [1], and intense LBP has been reported by 7.6% of the country's adult population over the past year [2]. Material costs directly related only to the provision of medical care to patients with LBP amount to 26.3 billion dollars, at volume What huge expenses coupled With temporal loss disability, inability to perform work in full

Classification: B compliance With main reasons development highlight nonspecific BNS, accompanied syndrome compression spinal homie or stenosis spinal channel, A Also caused by other spinal lesions [4]. Most frequent is nonspecific BNS (up to 85% And more patients, applying behind medical help) [5]. According to modern ideas, V overwhelming most cases nonspecific BNS is benign a condition caused by degenerative changes in the facet (facet) joints, periarticular tissues, and muscles. Damage to cartilage tissue, osteochondrosis between vertebral disks, Although far Not Always seems possible to tie available painful syndrome with changes in the intervertebral disk.

Difficulties often arise in determining the nosological affiliation of nonspecific LBP, largely associated with the heterogeneity of diagnostic criteria, differences in the design of studies devoted to studying the problem, What makes it difficult carrying out correct meta-analysis of completed studies [4].

Etiology and pathogenesis: Development BNS can contribute many factors, in particular, lack of physical loads or their excess, microtraumas of the spine, the nature of work activity associated with long-term systematic stay V forced uncomfortable position [6]. However, not all studies have made it possible to unambiguously confirm the significance specified factors. Interesting It should be noted that the influence of such factors as spondylolisthesis, abnormalities of the spine (lumbarization or sacralization, cleft vertebral arch and etc.), it seemed would, undoubtedly related With risk of developing BNS, Not was confirmed whole a number of large-scale studies [7].

In the development of chronic LBP, in addition to constitutional predisposition, degenerative changes in the spine and periarticular tissues , important role plays emotional patient's condition , V in particular, personal anxiety, dissatisfaction, depression, feeling of uncertainty, hopelessness [8]. The combination of these emotional disorders is largely determines the likelihood of pain chronicity. Maintenance more left syndrome And transformation acute or subacute to chronic pain may be due to psychosocial factors, for example, concomitant depression (V volume number somatized), personal dissatisfaction, characterological characteristics (increased anxiety), as well as existing rental attitudes [9,13].

IN case nonspecific BNS flow The disease , as a rule, is benign in nature . Complete regression of pain or its significant reduction occurs within 4-6 weeks [2, 10]. Together With those considering chronic, for the often irreparable nature of existing changes in articular and periarticular tissues, there is a significant risk of pain recurrence. There is evidence that repeated exacerbation of LBP throughout the year occurs in thirds patients [eleven].

Formation chronic syndrome BNS observed approximately at 20% sick, at this characteristic are significant difficulties in performing Not only industrial, But And household loads [eleven]. Often expressed pain syndrome, existing neurological deficit, affective violations sharp limit or completely exclude the patient's work activity . Received data O volume, What one from 25 British citizen throughout the year forced to change the nature of work activity due to the impossibility of performing it due to the existing severe pain syndrome [12].

Significantly less often, compared to nonspecific (benign) LBP, the cause For seeking medical help are painful syndromes caused by specific defeat vertebrae, shells dorsal brain, periaryticular soft fabrics. Such are traumatic lesions of the spinal bones, V particularly compression fractures of bodies vertebrae, which are revealed V 4% everyone cases BNS [1]. Such conditions are relatively less common, How ankylosing spondylitis (0.3-5%), metastases evil qualitative tumors in the bone textile, shell spinal cord (0.7%) [13]. Sometimes are identified and inflammatory diseases With involving V pathological process directly themselves vertebra (spondylitis, osteomyelitis) or With defeat, primarily adjacent tissues With formation of epidural abscess, etc. (in 0.01% cases) [14]. Such pathological conditions How stenosis spinal canal and symptomatic hernias inter- ringing disks, can be cause BNS respectively V 3 And 4% cases. Enough rarely (at measuredly at 0.04% patients) observed syndromes compression of the fibers of the cauda equina or himself spinal cord large hernia intervertebral disk. Traditionally, the presence of LBP is associated With violation of the integrity of the intervertebral disc With subsequent formation of protrusion or hernias disk. Should consider, What far Not Always local pain syndrome is caused by damage disk. So, enough often (before thirty% cases) verified at help CT or MRI hernia disk Not is cause pain, A is yourself marker degenerative lesions of the spine [13].

Clinical picture: B dependencies from duration pain syndrome, it is advisable to distinguish acute (duration less 4 weeks), subacute (from 4 before 12 week) and chronic (respectively, more 12 week) BNS. This division It has practical meaning For determining the nature of the course of the disease and its prognosis , choosing adequate therapy, assessing the effectiveness of treatment, establishing the degree of disability. Also important is differentiation between chronic pain syndrome and relapse of LBP. New onset of LBP after six months period her absence is regarded How relapse of pain. Exacerbation of existing chronic pain syndrome relapse Not counts [15].

Clinical diagnosis of LBP requires detailed clarification of anamnestic information about the characteristics of the onset of pain, identification of factors that provoke its appearance and relief , and determination of the dynamics of the disease. The edge is not important is establishment communications occurrence painful sensations With act movement And body position . When

examining, pay attention to the condition posture (Availability or absence physiological lordosis, scoliosis And etc.). Required condition assessment muscles torso, backs With purpose you are experiencing areas of hypertonicity, soreness.

A neurological examination was ordered on establishing symptoms of “tension” spinal roots. One of the most significant is symptom Lasegue (passive lifting of a person lying on back subject straightened V knee joint And relaxed legs before appearance Feel pain). It is believed that the spread of pain sensations By rear surfaces hips already at a small lifting height indicates O irritation 5th lumbar root. Should however, have keeping in mind that the peculiarity of this symptom is high sensitivity, along with low specificity in relation to pressure spine intervertebral disc herniation , and against, the occurrence of pain in the opposite leg (cross Lasègue's symptom) is characterized by low sensitivity at high specificity [14]. Timely identification neurological deficit (flaccid and central paresis and paralysis of the lower extremities, segmental sensitivity disorders). Availability focal symptoms required carrying out differential diagnostics of central and peripheral lesions (localization of the pathological process V myself dorsal brain or his spines). Special attention should devote identifying pelvic disorders caused by compression of the cauda equina. A screening examination for the presence of somatic diseases (inflammatory , neoplasms, injuries) that can lead to secondary damage to the spine and the occurrence of LBP is mandatory.

The primary (benign) nature of LBP casts doubt on the presence of “red flags” —symptoms that suggest the presence of a specific disease. With such symptoms are: emergence painful syndrome ma V age less 20 or more 55 years; emergence pain directly after injuries; increase in pain over time; lack of relief after stay V lying down position or gain pain V lying down position; pain mainly in the thoracic spine; transferred oncological diseases; long-term use of corticosteroids; use of intravenous drugs, immunodeficiency, HIV infection; prolonged illness; unexplained loss weight; Availability focal neurological deficiency , including signs of damage to the cauda equina ; fever; spinal deformity [5].

Significant interest For clinicians represents a set of factors that contribute to the formation and maintenance of chronic pain syndrome and disability due to LBP, united under term "yellow flags " [17]. Examples of such factors include the patient’s conviction that LBP is dangerous for his life and ability to work, and persistent assumptions about the presence of an incurable disease. Also characteristic is the belief in the greater effectiveness of passive methods treatment And absence desires accept active participation V process treatment. Please on myself attention demonstrative painful behavior with a significant restriction of daily activity, avoidance of minimal feasible loads, the presence of emotional disorders in the form of depression, anxiety, which can lead to limitation of social contacts. Difficulties

in social adaptation are also important With low satisfaction from carried out work, Problems V team, financial reasons. Despite the connection of these factors with risk development chronic pain, herself opportunity their corrections And her potential efficiency requires clarification [17]. It must be emphasized that the significance of psychosocial factors is great specifically for the formation of chronic pain, while their connection with acute pain syndromes, in in particular BNS, much less significant [16].

Diagnostics: A diagnostic search in the presence of LBP should be carried out between three main categories of clinical syndromes - nonspecific LBP, radicular syndrome, secondary spinal lesions [18]. Should Mark, What And radicular pain syndrome can be caused by damage to the vertebrae due to trauma, neoplasm and etc. Availability acute painful syndrome V a number of cases requires exclusion of somatic pathology.

To establish the cause of LBP, traditionally widely used radiography spine, in volume number With carrying out functional samples to detect spondylolisthesis. Results of a systematic review based on the results of the analysis 31 research, testify O volume, What Radiologically detectable signs of degenerative lesions (narrowing of the intervertebral space, osteophytes , osteosclerosis) are closely associated with nonspecific BNS [9]. It is noteworthy that What at spondylolysis , spina bifida and signs of juvenile chondropathy such a connection absent.

X-ray examination does not provide reliable information about the presence and size of an intervertebral disc herniation, true sizes vertebrate channel at his stenosis [4]. Available intelligence O volume, What application X-ray examination in patients with non-specific LBP is not associated with improved quality diagnostics And efficiency treatment And significantly Not influences on Exodus diseases [2].

Routine tomographic examination (CT, MRI, scintigraphy) also does not improve the quality of treatment. Detectable degenerative disc changes And articular-ligamentous apparatus often do not clarify the mechanisms of pain syndrome And, respectively, Not provide influence on therapeutic tactics [12]. IN most Modern national guidelines for the management of patients with LBP emphasize the inappropriateness of such examinations at patients With acute nonspecific LBP [5, 17].

Tomographic examination is indicated for patients with increasing pain syndrome, in the presence of neurological deficit, especially in volume case, If available clinical or anamnestic instructions on heavy somatic diseases, capable bring To secondary damage to the spine, spinal cord, spinal roots and call BNS (oncological, inflammatory diseases). Also This examination necessary with intense painful syndrome, growing peripheral paresis due to root compression to resolve the issue of surgical treatment [14].

Therapeutic tactics :

The main directions of treatment for patients with nonspecific LBP are to explain to the patient the essence of it diseases And belief his V benign nature of the condition, relief of the most significant symptoms (primarily, elimination of pain), ensuring a sufficient level of daily physical activity [18]. Necessary maintain the patient's confidence in his speedy recovery And absence significant threats to the state health.

Large role V treatment And rehabilitation the earliest possible activation of the patient plays a role [13]. The optimal tactic is to maintain a normal level of physical activity (everyday activity, walking By flat surfaces And etc.). Separate patients With expressed pain syndrome, with signs of compression of the spinal roots, short- term exclusion may be recommended physical loads Sick, however, must be oriented on so that By least cupping painful syndrome return to his usual level of daily physical activity as quickly as possible activity.

It has been established that in patients with nonspecific BNS long-term immobilization Not only does not improve, but even worsens the course diseases and his forecast, V in particular, contributing formation of pain behavior, chronic pain syndrome [14]. In accordance with the results of the completed in 2016 And supplemented in 2019 systematic review, long-term immobilization is also inappropriate in most patients with LBP with concomitant radicular syndrome, although the undesirable effects of strict immobilization And Not so expressed By comparison With patients with isolated dorsalgia [15].

The earliest possible activation of the patient prevents the occurrence of depressive disorders and the formation of pain behavior. Together With those recognized inappropriate early the purpose of therapeutic exercises, physical exercises with a primary effect on the back muscles. The optimal type of exercise is walking on a flat surface. Patients with acute BNS (duration less 4 week) Not should recommend specific medicinal gymnastics (V volume number classes yoga), acupuncture, massage, Then How specified non-medicinal therapy methods are indicated for patients with subacute or chronic pain syndrome [4].

Traditionally, physiotherapy methods are widely used (exposure to ultrasonic vibrations, electrical current various modalities) and other not medicinal ways treatment. Their effectiveness, however, has not been confirmed everyone clinical research. IN the present time seems inappropriate the use of one of these treatment methods as monotherapy [4, 15]. It is necessary to maintain the patient’s motor activity, involve him in process treatment. At acute And chronic BNS has a positive effect on manual therapy, the effectiveness of which increases with the use of therapeutic exercises [12].

It's hard to overestimate the role medicinal therapy at treatment patients With BNS. IN case acute BNS drugs choice are acetaminophen (paracetamol) and non-steroidal anti- inflammatory drugs (NSAIDs). IN compliance With European recommendations By treatment patients With acute LBP acetaminophen is drug first row, at absence effect or his intolerance , it is recommended to start taking NSAIDs [18]. Acetaminophen by analgesic activity comparable to most NSAIDs, yielding only some of them. A drug characterized low risk of occurrence side effects. Application his Maybe be accompanied asymptomatic increase V blood level transaminases, which is dose dependent and requires regular laboratory monitoring [17]. Clinical the significance of this phenomenon is still unclear, since to date no convincing data have been obtained on its prognostic significance.

Choice adequate medicinal tactics at patients with chronic BNS is enough complex task. Application NSAIDs at given categories of patients, How as a rule, It has limited efficiency or at all ineffective. At chronic LBP, a combination of acetaminophen and tramadol.

NSAIDs are widely used from groups non- selective cyclooxygenase inhibitors, characterized by high analgesic and anti- inflammatory activity. Maximum a pronounced positive effect is observed in patients with isolated local pain syndrome, while the effectiveness of NSAIDs is lower in availability radicular syndrome [8]. How Typically, drugs in this group provide enough fast cupping painful syndrome, however their application Not influences on probability formation chronic painful syndrome, A So- the nature of the further course diseases.

Application NSAIDs associated With risk development of gastrointestinal complications, frequency which Maybe achieve 15—20% patients. Probability their development higher at patients With previous diseases gastrointestinal path, simultaneously receiving some NSAIDs, acetylsalicylic acid acid, anticoagulants, glucocorticoids. Possible factor mi risk gastrointestinal complications, complications Bye have not received convincing confirmations, are belonging To female semi, smoking, alcohol abuse, H infection . pylori [9]. Risk of mucosal damage stomach can be reduced while simultaneously application proton pump inhibitors (For example, omeprazole). Systematic application NSAIDs capable cause an increase in blood pressure, V particularly in elderly patients, with availability arterial hypertension, What requires his thorough systematic control. There is data on volume, What effective level correction arterial pressure can be achieved under the influence dihydropyridine calcium channel blockers [14].

Of great interest is the possibility of using at sick With acute And subacute BNS selective inhibitors of cyclooxygenase type 2, which have sufficient analgesic activity at much smaller risk of gastrointestinal

complications. Long-term (many months) use of drugs this groups associated With elevated risk of developing thrombosis [16]. However, the results of the recently completed randomized clinical trial MEDAL (more than 30 thousand sick With osteoarthritis And rheumatoid arthritis on for an average of 18 months received diclofenac 150 mg/day or a selective inhibitor cyclooxygenase 2nd type eotricoxib 60—90 mg/day) testify O practically identical risk thrombotic complications V two groups therapy [2].

In acute LBP, the use of drugs is indicated: eliminating redundant muscular voltage, muscle relaxants (tizanidine, tolperisone, benzodiazepine derivatives). Numerous studies have established their good tolerability with a low incidence of side effects [33]. Use of muscle relaxants appropriate in most patients with acute LBP, and Also at significant numbers patients With subacute And chronic painful syndromes. In view of possibilities addiction And development addiction, benzodiazepines should not be used for a long time. An increase in the effectiveness of treatment is observed with the simultaneous use of painkillers and muscle relaxants . [4]. Combination properties analgesic Flupirtine has a central action and muscle relaxant that does not cause dependence or addiction. An important feature of its pharmacological profile is the complete absence of ulcerogenic effect. Flupirtine shown sick With different duration of pain syndrome, in particular, with subacute And chronic his options [5].

Antidepressants are used to treat patients with chronic LBP. The greatest experience has been accumulated with tricyclic antidepressants (amitriptyline) [3,6]. Results of a systematic review of a series of effectiveness studies tricyclic antidepressants at patients With chronic BNS testify about their sufficient effectiveness [3,15]. High frequency of unwanted effects, Not Always good tolerability greatly limits its use in outpatient settings practice.

New antidepressants — selective inhibitors reverse capture serotonin, A Also inhibitors reverse capture serotonin And norepinephrine is widely used in the treatment of various neuropathic painful syndromes [8]. Data about efficiency drugs these groups at patients With chronic LBP is significantly less. Considering the connection between chronic pain syndrome and depressive disorders, the use of antidepressants is justified in a significant number of patients [9].

Available intelligence O volume, What application anticonvulsants capable reduce pain intensity syndrome at chronic BNS. The use of gabapentin has a positive effect in sick With BNS V combination With radiculopathy [4]. Few studies are devoted to application and others anticonvulsants at chronic BNS, however, further research is required to establish their effectiveness [4,8].

Certain value in pain relief And warning development exacerbations have the correct organization of living conditions. The results of a double-blind, randomized, multicenter study demonstrated What at

patients With chronic BNS It is inappropriate to use hard mattresses for night sleep (specified V full least Maybe be attributed and To recommendations sleep on tough boards, on gender and etc.). Significant positive Effect provide semi-rigid mattresses that provide comfortable state in time stay V supine position [1]. Despite on That What With purpose immobilization lumbar motor segments wide It is common to wear fixing corsets, convincing data about their efficiency Not obtained [13]. Together With those many Patients experience relief from the use of these devices when performing work associated with significant physical tension. This gives basis for recommending their use, taking into account individual characteristics sick.

Effective effect V treatment And Behavioral therapy and classes in specialized schools for patients with back pain can help prevent exacerbations of LBP [15,16]. Carrying out further research will make it possible to objectively establish their true value.

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