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RESULTS OF USING LATERAL SURGICAL APPROACHES IN THE SURGICAL TREATMENT OF TUBERCULOSIS SPONDYLITIS OF THE LUMBAR AND LUMBOSACRAL SPINE

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Summary

The work is based on the survey data of 190 patients with tuberculosis spondylitis (TS) of the lumbar and lumbosacral spine, who underwent surgical intervention using traditional lateral access. In 158 (83.2%) patients, radical reconstructive surgery (RRS) was performed in the lumbar, and in 32 (16.8%) cases - lumbosacral spine. Of these, 127 (66.8%) patients of the affected segment underwent spinal fusion using a titanium mesh cage (Piramesh), and 63 (33.2%) using the traditionally classical method with auto bone fusion. The use of traditional lateral access allows the surgeon to fully work in the lumbar spine, but with lesions of the lumbosacral spine, the possibility of detecting VL5, VS1-2 bodies is difficult and dangerous. Damage to muscles, nerves and blood vessels of the abdominal wall, often encountering postoperative complications such as muscle prolapse, abdominal wall hernia, discomfort, and rough scar are considered to be the main disadvantages of lateral access in RVO of the lumbar and lumbosacral spine.

Key words: tuberculosis spondylitis of the lumbar and lumbosacral, surgical treatment, surgical approaches.

Introduction

The urgency of this problem is due to the prevalence of infectious lesions of the spine, which make up from 2 to 8% of all bone infections. In this case, the incidence of spondylitis and discitis ranges from 0.5 to 5.9 cases per 100,000 people and observations of late diagnosis reach up to 75%, and mortality from spondylitis is 5–12% .

The share of extra pulmonary localizations of tuberculosis accounts for 4 to 17%, and the part of osteoarticular tuberculosis among extra pulmonary localizations ranges from 5 to 52% . Tuberculosis lesion of the bone structures of the spinal motion segments in the general structure of osteoarticular tuberculosis, according to different authors, ranges from 45 to 90% .

Compression of the spinal cord and its roots occurs in up to 90.7% of TS patients, signs of neurological disorders - in 69% of cases, including spinal disorders - in 44%. Despite the implementation of a complex of therapeutic measures in 60% of cases, patients become disabled .

Materials and Methods: the data of examination of 190 patients with tuberculosis spondylitis of the lumbar and lumbosacral spine, who underwent surgical intervention using traditional lateral approach, were analyzed. In 158 (83.2%) patients, radical reconstructive surgery (RRO) was performed in the lumbar spine, and in 32 (16.8%) cases - in the lumbosacral spine after appropriate preparation and anti-tuberculosis therapy in an average period of up to 1 month. Of these, 127 (66.8%) patients with the affected segment underwent spinal fusion using a titanium mesh cage (Piramesh), and in 63 (33.2%) patients, the traditional classical method with autologous bone fusion was performed. The age of the

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patients varied from 21 to 81 years, with the mean age being 44.7 years. As can be seen from Table 1, there were 1.3 times more men than women, of whom 60.5% of patients were aged 19-49 years. Frequent localization of tuberculosis lesions of the spine was observed in the lumbar vertebral bodies VL3,4,5 - in 133 (70.0%) patients. The disease developed slowly - in 96 (50.6%) patients, more than a year, a sub acute course of the disease with progression over 6 months, pain in the spine with irradiation, low-grade fever and sweating in the evenings was noted - in 51 (26.8%) patients, in 43 (22.6%) - the clinical course of the disease was acute, with a rise in temperature over 38.00C, with intoxication, loss of body weight more than 10% of the total body weight, with a strong growing pain symptom, dysfunction of the spinal cord . 14 (7.4%) patients per diagnosed with multi-resistant tuberculosis (MDR).

The severity of neurological disorders was assessed before surgery using the N.L. Frankel (1969) and A.Yu. Mushkin et al. (1998) as follows: grade A and B - not observed; grade C - with incomplete impairment of sensitivity, weak movement, but muscle strength is insufficient for walking - 2 (1.0%) patients; grade D - with incomplete impairment of sensitivity below the level of the lesion, there are movements, muscle strength is sufficient for walking with assistance - 39 (20.5%) patients; grade E - without impairing sensitivity and movement below the level of the lesion. There may be altered reflexes - in 68 (35.8%) patients; degree R - the presence of radicular syndrome - in 81 (42.7%) patients. The severity of pain syndrome according to the F. Denis method was 0 points - no; 1 point - 8 (4.2%), 2 points - 24 (12.6%), 3 points - 158 (83.2%), 4 points - there are no patients, these are those who need to take drugs to relieve pain syndrome.

Results and discussion: the effectiveness of operations was studied in the early (up to 30 days) and late postoperative period (from 6 months to 8 years). The results of operations, the advantages and disadvantages of surgical approaches depend on the anatomical features of the operated segment of the spine and the anterolateral abdominal wall. The anterior lateral wall of the abdomen and retroperitoneal space is made up of numerous muscles and facies, since the external oblique, internal oblique, transverse abdominal muscle, facies and passes the blood supplying arteries, veins and innervating nerves (a., V. Et n. XII intercostalis). When using anterolateral surgical approaches to expose the spine, the above mentioned muscles, nerves and blood vessels are damaged. The posterolateral wall of the retroperitoneal space is covered by the square muscle of the lumbar (m. Quadratus lumborum), and the lateral sides of the lumbar spine with the large and small lumbar muscles (m. Psoas major and minor), and the lumbosacral spine is surrounded with the lumbar-iliac muscle (m . Iliopsoas) and inside these muscles pass the nerve roots and blood vessels. After opening the retroperitoneal space, when the lateral side of the spine is detected, the large and small psoas muscles, sometimes the square muscle, nerve and blood vessels are damaged. The following undesirable complications were observed: prolapse of the anterior wall muscles - in 65 (34.2%), incisional hernia - in 4 (2.1%), severe postoperative scar - in 83 (43.7%), discomfort and impaired sensitivity in the area the skin below the surgical incision - in 91 (47.9%), psoit - in 8 (4.2%), weakness of the muscles of the lower limb and pain - in 26 (13.7%) patients. It should be noted that, in case of lesions of the lumbosacral VL5 and VS1 sections with anterolateral approach, the detection of the lumbar VL5 and VS1 spinal bodies is rather difficult work and the anatomy of this area is more dangerous. In many cases, during operations in this area, there is damage to the iliac veins and difficulties in detecting this segment. In operations of the lumbar and lumbosacral spine, anterior-lateral surgical approaches have a number of advantages.

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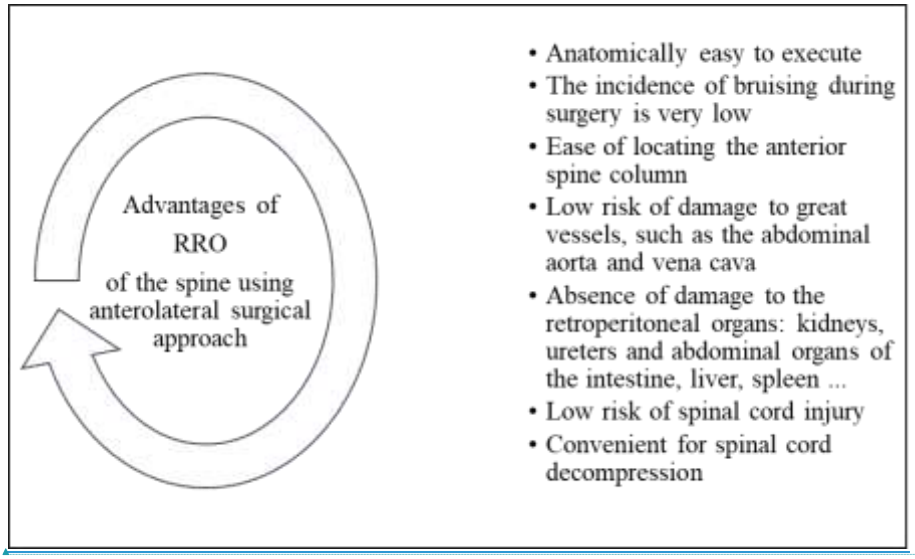

Drawing 1. Advantages of anterolateral surgical approaches.

The severity of neurological disorders after surgery was assessed by N.L. Frankel (1969) and A.Yu. Mushkin et al. (1998) as follows: grade A, B, C and D - not observed; grade E - in 68 (35.8%) patients; degree R - in 27 (14.2%) patients. The severity of pain syndrome according to the F. Denis method was 0 points - no; 1 point - 18 (9.5%), 2 points - 0, 3 points - 0, 4 points - there are no patients, these are those who need to take drugs to relieve pain.

Conclusion

1. Anterolateral approaches radical recovery operations in case of tuberculosis of the lumbar and lumbosacral spine is convenient for detecting the spinal bodies and decompression of the spinal cord.

2. When using anterolateral approaches, the frequency of damage to the peritoneum, great vessels (abdominal aorta and vena cava), retroperitoneal organs (kidneys, ureters), abdominal organs (intestines, liver, spleen, ...) and spinal cord is very low.

3. During surgical treatment of tuberculosis of the lumbar and lumbosacral spine, using anterolateral approaches, the following undesirable complications were observed: prolapse of the anterior wall muscles - in 65 (34.2%), incisional hernia - in 4 (2.1%), rough postoperative scar - in 83 (43.7%), discomfort and impaired sensitivity in the skin area below the surgical incision - in 91 (47.9%), psoit - in 8 (4.2%), muscle weakness of the lower limb and pain - in 26 (13.7%) patients.

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