



## MODERN APPROACH TO TREATMENT OF TRAUMATOLOGICAL, ORTHOPEDIC, NEUROSURGICAL DISEASES

**Aliyeva Mushtari Botirjon kizi**

Department of Pediatrics, Faculty of Medicine, ASMI

<https://doi.org/10.5281/zenodo.8017763>

### **Relevance of the topic**

Currently, various options for algorithms, tactical classifications and treatment regimens for hematogenous osteomyelitis of the spine have been proposed. However, all the proposed approaches are designed for the treatment of patients in specialized departments of multihematogenous osteomyelitis of the spine of specialized clinics, although the initial treatment often occurs in municipal polyclinics, private medical centers and hospitals at the level of the central district hospital. The question of what is the appropriate amount of diagnostic and therapeutic measures in institutions with different material and resource base and how to ensure continuity according to the existing three-level system of medical care remains open.

### **The purpose of the study**

To determine the likely routing and treatment options for patients with hematogenous osteomyelitis of the spine on the example of Andijan region, depending on the existing three-level system of medical care for the population.

### **Research materials and methods**

The current orders of the Ministry of Health of Uzbekistan were studied on the basis of which a three-level system of providing medical care to the population was organized and organizations were identified that provide emergency and planned medical care to patients with hematogenic osteomyelitis of the spine. The volume of treatment and diagnostic measures for patients with osteomyelitis of the spine in institutions of various levels was analyzed, as well as their routing to the regional clinical hospital if it is impossible or inappropriate to provide specialized medical care at the place of initial treatment. The clinical material is presented by 267 patients with hematogenic osteomyelitis of the spine who were treated at the Andijan Hospital No. 1 from 2009 to 2022, 78.7% of whom were treated in the profile of "traumatology and orthopedics", 18.7% - "neurosurgery" and 2.6% - "surgery".

### **Research results**

A list of medical institutions providing emergency and planned assistance in traumatology and orthopedics, neurosurgery in the Andijan region has been determined depending on the level of the institution and the available material



and resource base. A flowchart is proposed that determines the scope of treatment and diagnostic measures in institutions of levels I–III and specialized departments of multihematogenous osteomyelitis of the spine of specialized clinical hospitals. The principle of determining the profile of the patient (surgical, orthopedic, neurosurgical) depending on the type and severity of the inflammatory lesion according to the classification is proposed.

We have proposed a flowchart “The volume of care and routing of patients with hematogenic osteomyelitis of the spine” based on the existing three-level system of medical care.

The key tasks are the effective use of medical and diagnostic resources, starting from level I, and ensuring the continuity of medical care. When a patient is referred from hospitals of levels I–III to a specialized clinic, the maximum of necessary information about the course of the disease, the presence of complications, diagnostic studies performed with the formulation of a complete diagnosis and extremely detailed information support of the patient should be collected.

For lesions of type A.1-A.4, B.1-B.3 (E. Pola) — treatment in specialized traumatology and orthopedic departments and/or departments of purulent osteology if there is a vertebrologist surgeon on staff.

C.1-C.4 — treatment in specialized neurosurgical departments with the participation of a vertebrologist.

Lesions A.1-A.4, B.1, and also B.2 with the length of paravertebral abscesses up to 2.5–3 cm can be treated in the department of general (purulent) surgery for polyhematogenous osteomyelitis of the spine in specialized hospitals.

There are no specific markers of hematogenic osteomyelitis of the spine, and the most important hospital stage is a well-performed differential diagnosis based on the analysis of extremely diverse clinical manifestations, their comparison with the data of laboratory and radiological diagnostic methods.

One of the key issues at the stage of diagnosis is to determine the profile of the patient and the unit in which he should be treated. Traditionally, hematogenous bone lesions (hematogenous osteomyelitis) belong to the section of general surgery, and patients with such diseases are treated in the departments of purulent surgery. However, the hard-to-reach anatomical localization of the process, the need for interventions not only on paravertebral soft tissues, but also on intervertebral discs, vertebrae, and the spinal canal often pose overwhelming tasks for surgeons. The presence of segmental instability or



complications in the form of a neurological deficit shifts the focus towards the orthopedic or neurosurgical profile with the participation of an orthopedic and/or neurosurgeon in the treatment.

It should be noted that a full-fledged diagnosis is possible only in institutions not lower than level III, since the diagnosis of spondylitis is considered to be reliably established with morphological confirmation, reliably proven only with bacteriological confirmation. To comply with these criteria, the following must be performed (minimum): CT, puncture or surgical biopsy with an exhaustive study of the obtained samples (cultural method - bacterial culture, cytological and/or histological examination, molecular genetic diagnosis of tuberculosis). The exception is cases when sanitizing interventions were performed in institutions of I and II levels for emergency indications with histological and microbiological verification of the diagnosis.

Patients with hematogenic osteomyelitis of the spine, including those with a complicated course and/or biomechanical instability, are treated in the departments of traumatology and orthopedics, those complicated by a neurological deficit of the form are treated in neurosurgical departments with the obligatory presence of a vertebrologist surgeon. Patients with reliably confirmed and proven hematogenic osteomyelitis of the spine with an uncomplicated course can be treated in the departments of purulent surgery for polyhematogenous osteomyelitis of the spine of a specialized hospital.

In many modern publications, conservative therapy is recognized as the main treatment for hematogenic osteomyelitis of the spine. E. Pola et al reported that only 38.4% of 250 treated patients were operated on. The effectiveness of this method of treatment directly depends on the stage of the disease and the presence of complications.

The first thing to pay attention to in patients with acute back pain is the nature of the pain syndrome, the presence of fever and temperature rises chronologically associated with back pain. From hundreds of patients with osteochondrosis, we must single out a patient with fever and intense pain, not related to the time of day, but aggravated by the most insignificant movements, such as turning in bed or even a simple movement in the supine position.

Risk factors include diabetes mellitus and other endocrine diseases; remote unsanitized foci of infection; immunodeficiency, more often acquired against the background of HIV infection; parenteral use of psychostimulants; infections of the urinary system against the background of a violation of the





outflow of urine; previous large-scale operations, including abdominal and spinal ones; prior treatment in intensive care units; long-term hospitalizations.

### **Conclusion**

The need for effective use of medical and diagnostic resources, starting from level I, is determined by a clear patient routing to ensure the continuity of medical care. Full diagnostics is possible in institutions not lower than the third level with the obligatory determination of the type of lesion and the severity of the inflammatory process. Treatment of hematogenic osteomyelitis of the spine is advisable in level III institutions, specialized departments of regional clinical hospitals and federal institutions.

