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Extrapulmonary Tuberculosis: Epidemiology, Risk Factors and Distribution Trends

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Abstract: The article analyzes the epidemiological situation of extrapulmonary tuberculosis (EPTB) in the Republic of Uzbekistan. An increase in extrapulmonary organ involvement has been observed in recent years. The study examines risk factors, socio-economic and biological causes, and patterns in disease spread.

Keywords: tuberculosis, extrapulmonary organs, epidemiology, risk factors, Uzbekistan.

Introduction

Extrapulmonary tuberculosis is an infectious disease caused by Mycobacterium tuberculosis, in which the infection affects organs and tissues other than the lungs. It accounts for approximately 15–25% of all tuberculosis cases.

Etiology and Pathogenesis

The main pathogen belongs to the Mycobacterium tuberculosis complex group. The infection enters the body through the respiratory tract and later spreads via the lymphatic or circulatory system, settling in other organs. When immunity weakens, mycobacteria become active and cause extrapulmonary forms of TB.

Common Forms

- Tuberculosis of lymph nodes, especially cervical and submandibular.
- Bone and joint tuberculosis (spinal TB – Pott's disease), knee and hip joints.
- Renal and urinary tuberculosis (dysuria, hematuria).
- Genital tuberculosis: fallopian tubes and ovaries in women; prostate and epididymis in men.
- Tuberculous meningitis – severe and life-threatening.

- Abdominal TB: liver, intestines, peritoneum.
- Skin and ocular tuberculosis.

Clinical Symptoms

- Prolonged low-grade fever
- Weight loss, fatigue
- Pale skin
- Local pain and swelling
- Enlarged lymph nodes
- Organ dysfunction (kidneys, bones, reproductive system, etc.)

Diagnostics

- Mantoux and Diaskintest tests
- Microbiological tests: detection of mycobacteria
- Molecular-genetic methods: PCR, GeneXpert
- Imaging: X-ray, ultrasound, CT, MRI
- Histological and cytological analysis (caseous necrosis)

Epidemiological Situation

In recent years, extrapulmonary TB has shown an upward trend, especially among immunocompromised individuals (HIV-positive patients). In Bukhara region, over the past 5 years, EPTB accounted for 18–20% of all TB cases.

In Uzbekistan, TB remains an important socio-biological issue. Cases of both pulmonary and extrapulmonary TB have increased in recent years. Extrapulmonary TB is characterized by infection developing in organs and tissues outside the lungs. Clinical manifestations are diverse and may involve lymph nodes, bones and joints, urogenital system, nervous system, and skin.

According to WHO, 15–20% of global TB cases are extrapulmonary. In Uzbekistan, the incidence increased between 2020 and 2024. This trend is linked to changes in immunity, HIV spread, malnutrition, stress, and other risk factors.

Research Objective

To analyze the epidemiological characteristics of extrapulmonary tuberculosis in Uzbekistan, identify distribution trends, and study major risk factors.

Materials and Methods

Data from 2020–2024 collected by the Republican Specialized Center of Phthisiology and Pulmonology and the Ministry of Health were analyzed. Epidemiological and statistical methods were used. Data were processed using MS Excel and SPSS.

Results

Extrapulmonary TB accounted for 14–18% of all TB cases in Uzbekistan. The most common forms were:

- Lymph node TB – 45%
- Urogenital TB – 17%
- Bone and joint TB – 13%
- Nervous system TB – 9%

- Skin TB – 7%

Discussion

The rise in EPTB cases is associated with weakened immunity, HIV prevalence, and differences in healthcare quality. The most affected age group is 20–50 years. Delayed diagnosis and misdiagnosis increase its epidemiological significance.

Conclusion

Extrapulmonary tuberculosis remains a significant health concern. Improving rapid diagnostics, increasing preventive screenings, and addressing risk factors can help reduce its spread.

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