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TUBERCULOSIS OF METATARSALS (TUBERCULOSIS DACTYLITIS): A RARE CASE OF EXTRAPULMONARY LOCALIZATION

¹Thilini K. Lamahewa, ¹A.H. Mahima Isiwara, ²Гурская В.Т.

¹Гродненский государственный медицинский университет,
²ГОКЦ «Фтизиатрия»

Научный руководитель: канд. мед. наук, доц. Алексо Е.Н.

Relevance. While tuberculosis (TB) mostly affects the respiratory system, 10% of TB patients have extrapulmonary localizations [1]. Metatarsal tuberculosis is extremely rare and causes a delay in diagnosis and treatment due to its uncommon location, lack of knowledge, capacity to mimic a variety of acute and chronic diseases conditions like, inflammatory arthritis, pyogenic osteomyelitis. Metatarsal TB due to a delay diagnosis may lead to bone destruction [2]. About 85% of metatarsal TB is in children under the age of 6 yrs. Only sporadic cases of adult cases are described. Here, a rare case of metatarsal TB is described [1]. While tuberculosis (TB) mostly affects the respiratory system, 10% of TB patients have extrapulmonary localizations [1]. Metatarsal tuberculosis is extremely rare and causes a delay in diagnosis and treatment due to its uncommon location, lack of knowledge, capacity to mimic a variety of acute and chronic diseases conditions like, inflammatory arthritis, pyogenic osteomyelitis. Metatarsal TB due to a delay diagnosis may lead to bone destruction

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Object. Here, a rare case of metatarsal TB is described.

Research methods. The patient G., 45 yrs, doesn't work. His brother died of pulmonary TB. 05/04/2022 patient having a syndrome of dependence of alcohol II degree visited to the traumatologist with complains about right foot contusion happened 3 weeks back. X-ray examination revealed a fracture of the main phalanx of the 5th toe of the right foot. The patient has been treated 18 days in the surgical department with the diagnosis: complications of traumatic injury of the right foot (osteomyelitis of the 5th toe of the right foot, abscess of the right foot). A chest X-ray was done on 05/04/2022 revealing right-sided lower lobe pneumonia. He didn't receive treatment for pneumonia. Chest X-ray control wasn't performed. Re-hospitalized in the surgical department on 05/09/2022, because the pain of the foot continued and a fistula was formed in the 4-5th metatarsal borns of the foot. Osteolysis and severe bony and joint deformities were found in 4th and 5th metatarsal bones. On 15/09/2022 amputation of the 4th and 5th toes of the right foot with resection of the 4th and 5th metatarsal bones was performed. Then autodermoplasty with a free split flap of the soft tissue defect of the right foot stump was performed. 21/10/2022 the patient complained of dyspnea, fever up to 37,3–37,6°C. The general condition was moderate. The lungs: breathing was vesicular on the right, weakened on the left. RR is 22 PM. Heart sounds were muffled, heart rate was 80 BPM. BP – 140/90 mm Hg. The abdomen was soft. Stool, urine excretions were normal. The tests were done:

- chest X-ray: 24/10/2022: the left lobe was slightly shaded, depicting slight pleural effusion in left costo-phrenic recess, focal and infiltrative changes in the lungs were not detected; 31/10/2022: negative dynamics, total shading of the lower lobe of the left lung with the Damoiseau-Ellis line up to the 6th rib, depicting worsening of left lower lobe pleural effusion;
- 03/11/2022 – blood test: WBC $7.62 \cdot 10^9/l$; Hb 121 g/l; ESR 60 mm/h;
- sputum smear microscopy ZN – № 2: AFB 0;
- GeneXpert MTB/RIF test: MBT DNA were detected sensitive to Rifampicin.

Results and discussion. 09/11/2022 the patient was admitted to the GRCC "phthisiatry" with complains: general weakness, lack of appetite, shortness of breath with little physical exertion, pain in the right foot. The patient's condition was moderate severity. The skin was clean. Heart sounds were rhythmic, muffled; heart rate – 80 BPM. BP – 120/80 mm Hg. Lungs: vesicular breathing sound weakened on the left. RR – 22 PM. The abdomen was non-tender. Stool and urine excretion –

normal. Amputation of 4-5 fingers of the right foot. In the area of the right foot there is a postoperative wound with healing scars. In the area of the right thigh there is a postoperative wound (autoplasty).

The tests were done:

- chest X-ray – 09/11/2022: negative dynamics;
- pleural puncture – 10/11/2022: received 2200 ml of light transparent liquid. Analysis of the pleural fluid: slightly turbid liquid, Rivolta test – negative, lymphocytes – 8%, segmental neutrophils – 41%, alveolar macrophages – 51%.
- Fibro bronchoscopy: bilateral diffuse endo bronchitis grade 1-2;
- CT scan of the chest: infiltrative changes in the left lung were detected;
- Mantoux and Diaskin tests were negative;
- Blood test: -10.11.2022:- Erythrocytes- $4.03 \times 10^{12}/L$, Haemoglobin-115g/L, Hematocrit-0.34, Platelets- $384 \times 10^3/L$, Leukocytes- $6.55 \times 10^9/L$, Eosinophils-3, Band Neutrophils-3, Segmented Neutrophils-46, Lymphocytes-33, Monocytes-15, ESR-61 mm/hr;
- -10.01.2023:- Erythrocytes $4.56 \times 10^{12}/L$, Haemoglobin-122 g/L, Hematocrit-0.36, Platelets- $256 \times 10^3/L$, Leukocytes- $6.55 \times 10^9/L$, Eosinophils-3, Band Neutrophils-3, Segmented Neutrophils-30, Lymphocytes- 52, Monocytes-12, ESR-21 mm/hr.

The histopathological examination of the surgical material (fragments of 4-5 fingers with metatarsal bones) result: in soft tissues on the background of diffuse inflammatory infiltration, granulomatous inflammation is determined with the presence of caseous necrosis, epithelioid and Giant multinuclear Pirogov-Langhans cells, which were typical for TB.

The diagnosis: infiltrative TB of the left lung, complicated by left-sided exudative pleurisy. MBT positive. Drug-susceptible TB. TB of the 4-5 metatarsal bones and of the 4-5 metatarsophalangeal joints of the right foot, fistulous form, diagnosed after amputation of the 4th and 5th toes of the right foot. Dermoplasty of soft tissue defects of the stump of the right foot.

Treatment: H-0.3, R-0.6, E-1.6, Z-2.0. Positive dynamics was achieved. The number of focal and infiltrative changes in the lungs decreased. Pleurisy was eliminated.

Conclusions. The case demonstrates the complexity of diagnosis of tuberculosis with a combined lesion of the lungs and very rare localization in the metatarsal bones.

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