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CASE REPORT

Erythema Nodosum and Primary Tuberculosis - Case Report

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ABSTRACT

Background: Erythema nodosum is a type of panniculitis, typically manifested as erythematous nodules.
Case history: A case of a young woman with clinical picture of erythema nodosum and isolated unilateral axillar lymphadenopathy is presented. Excision and biopsy of lymph nodes revealed a chronic granulomatous inflammation, suggesting the diagnosis of tuberculosis. An extensive diagnostic workup did not reveal any other focal points of tuberculosis. She has successfully received antituberculotic therapy.
Conclusion: It is suggested that tuberculosis should be a part of the differential diagnosis in any case of erythema nodosum with isolated unilateral lymphadenitis.

Key words: erythema nodosum, tuberculosis, lymphadenopathy.

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INTRODUCTION

Erythema nodosum (EN) is a type of panniculitis, from the clinical standpoint, mainly presented as erythematous nodules that are intensely sensitive and painful. The diameter of the nodes ranges from one to 10 cm with unclear demarcation from the surrounding tissue, indicating their subcutaneous localisation. The main localisation is pretibial region followed by the anterior surface of the forearm, groins and the thorax. EN is followed by symptoms: subfebrile temperature, discomfort, loss in body weight, cough, and affection joints in the form of arthralgia or arthritis.[1] In 55% of cases the aetiology is unknown and in this case it is the idiopathic form of the disease with spontaneous recovery. However, EN may be the first sign of a systemic disease such as: tuberculosis (TB) (25%), sarcoidosis (11-25%), inflammatory bowel disease (4-15%) and other infection such as bacterial, deep fungal or viral infection (HIV, Hepatitis B and C). Also it is associated with: syphilis, lymphoma and other malignancies.[2] EN affects predominantly female gender in the age range of 20 to 30.[3] According to the recommendations, the treatment of extrapulmonary TB begins with a combination of four antituberculotics for two months and continues with a dual therapy for additional four months.[2,4]

CASE HISTORY

A case of 24-year-old woman is presented. Initially, the disease manifestation included the following simptoms: pain in forearms and shins and fever (maximum measured 38.5°C) three days before hospitalisation. The next day, red painful nodules appeared on the forearms and shins. After the occurrence of nodules the patient visited a general practitioner's office, where laboratory assay was performed, showing a low platelet count. She was treated with vitamin C 500-mg tablets qd. Since there was no subjective and objective improvement, two days later she was sent to the Emergency Centre, University Clinical Centre of Republic of Srpska and hospitalised at the Department of Rheumatology with the clinical presentation of EN.

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Physical examination revealed hyperpigmented and painful nodes on the shins, dorsum of the foot and on the inside of the right forearm (Figure 1). In the right axilla, there was a palpable and enlarged lymph node, painless and unfixed. The ankle joints were swollen, with limited range of motion. Other physical findings were unremarcable. Diagnostic assays were performed. The laboratory findings were in the physiological range, with the exeption of high leukocyte count 11.49 x 10^9/l (normal range 3.4-9.7 x 10^9/l), C-reactive protein (CRP) 135 mg/l (<5 mg/l) and anti-cyclic citrullinated peptide (anti-CCP) antibodies 673.2 IU/ml (<20 IU/ml). The radiograph of the chest was normal, and QuantiFERON-TB Gold test was negative. At the beginning, sarcidosis was excluded, based on the peripheral blood count, calcaemia, liver enzymes, creatinine, angiotensin-converting enzyme, urinalysis, calciuria, throat and nose swab, ECG, and the chest radiography. The ultrasound of the axillar region was performed, as well as the computerised tomography (CT) of the chest, which described enlarged and pathologically altered lymph nodes of right axillar region, that were showing hypodense characteristics and the largest axial diameter 31 x 24 mm. A lymph node biopsy had been done and the pathohistological analysis pointed to a chronic granulomatous inflammation consistent with tuberculosis (Figure 2). Antituberculotic therapy was initiated: rifampicin, isoniazid, ethambutol and pyrazinamide for two months, followed by a dual therapy with rifampicin and isoniazid for another four months. Shortly after the onset of treatment the stable remission and lymph node regression was observed. The patient has been in remission ever since.

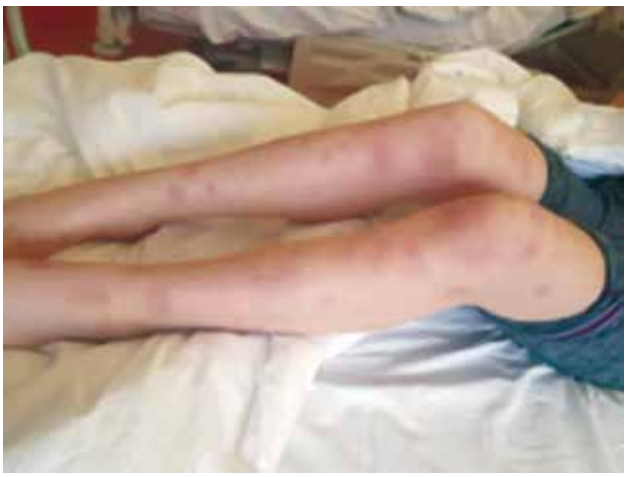

Figure 1: **Erythema nodosum on physical examination:** Hyperpigmented nodes in the pretibial region.
Source: patient's medical records.

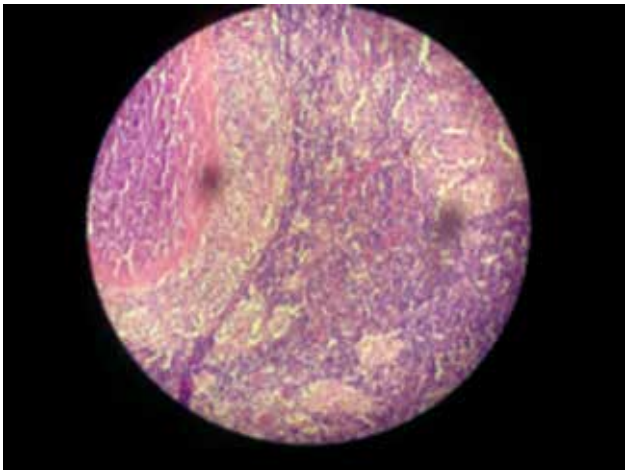

Figure 2: **Pathohistology of the biopted lymph node:** A parenchymal lymph node with disrupted architectonics and sprinkled with numerous granulomas with central necrosis, which were built on the periphery of epithelium cells, among which there were rare individual giant cells of the Langhans type. Histological picture corresponds to the chronic granulomatous inflammation, consistent with tuberculosis (haematoxylin and eosin staining; magnification x200).
Source: patient's medical records.

DISCUSSION

The association of EN with TB is well known, especially in endemic regions. The involvement of the type IV delayed hypersensitivity response to numerous antigens is supported by most direct and indirect evidence.[1] Several studies reported that TB was the second most frequent cause of secondary EN. These studies also reported that among the clinical forms of TB, primary TB is especially prone to cause EN, usually in young adolescents.[5]

CONCLUSION

It is suggested that TB should be a part of the differential diagnosis in any case of EN with isolated unilateral lymphadenitis, in developing and developed countries alike.

ACKNOWLEDGEMENTS

None.

CONFLICT OF INTEREST

None.

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