

Role of proper physical examination in diagnosis of cutaneous manifestation (Erythema Nodosum) of primary tuberculosis

Mehmet Tayip Arslan¹, Vefik Arica², Murat Tutanc³, Secil Gunher Arica⁴

ABSTRACT

Erythema nodosum (EN), which is a rare skin manifestation among children, is associated with a wide variety of disease processes. Here a 10 year old female patient with EN is presented. She was initially suspected to have coagulation abnormality by many physicians. She was diagnosed to have primary tuberculosis. This paper stresses the importance of proper physical examination in cutaneous lesions and of ruling out primary tuberculosis in endemic countries in children presenting with EN.

KEY WORDS: Cutaneous lesion, Erythema nodosum, Tuberculosis.

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INTRODUCTION

Erythema nodosum (EN) is a cutaneous reaction consisting of inflammatory lesions. It is self limiting and is characterized by the development of indurated, red, hot, elevated, tender, ovoid nodules 1-3 cm in diameter.^{1,2} Defined histologically as a septal panniculitis,¹ EN is associated with various disease processes like bacterial, viral, fungal, chlamydial and parasitic infections, sarcoidosis, Behçet's disease, enteropathies and malignities.¹⁻⁴ Besides, several pharmacological products like gold, sulfonyleureas and birth control pills also may cause EN.^{1,4} EN is usually seen in adults

between the ages of 20-30 and it is rare in pediatric population.^{1,3} The frequency of underlying pathologies of EN varies between different countries.¹ Here, a 10 year female patient who had EN and was diagnosed to have tuberculosis is presented.

CASE REPORT

Ten years old female patient presented with tender discoloration over the anterior left leg of three weeks duration. She consulted three other doctors during this period and was investigated for coagulation abnormality because these lesions were regarded as ecchymosis. Her PT and aPTT tests were within normal limit. Bleeding time was 3 minutes 20 seconds and thrombocyte count was 247.000/mm³. Since the lesion persisted, she presented to our hospital. Her physical examination revealed weight between 10-25 percentiles, height between of 10-25 percentile, and a tender discoloration of 2.5 cm in diameter (Figure-1). Her oropharyngeal examination was normal and no sign of streptococcal infection was noted. Tuberculin test of the patient performed with 0,1 ml tuberculin solution was 20 mm and thorax BT (Figure-2) revealed calcified right hilar lymph node. Sputum inspection for three days revealed acid resistant bacillus. She was diagnosed as tuberculosis and medical treatment initiated. The EN disappeared in a week during follow up. This duration is consistent with the literature.

1. Mehmet Tayip Arslan, Pediatrics Department, Private Defne Hospital, Hatay, Turkey
 2. Vefik Arica, Assistant Professor Doctor, Department of Pediatrics,
 3. Murat Tutanc, Assistant Professor Doctor, Department of Pediatrics,
 4. Secil Gunher Arica, Assistant Professor Doctor, Department of Family Medicine,
- 2-3: Mustafa Kemal University Faculty of Medicine, Hatay, Turkey.

Correspondence:

Vefik Arica, MD,
Medical Faculty of the Mustafa Kemal University,
31100, Serinyol, Antakya, Hatay - Turkey.
E-mail: vefikarica@hotmail.com

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Fig-1: Erythema Nodosum 2,5 mm in diameter over left leg.

DISCUSSION

EN is an immunologic reaction that can be triggered by various bacterial, viral, fungal, parasitic infections as well as different malignant or benign diseases like sarcoidosis, enteropatihes, Behcet's disease, leukemia and lymphoma.^{1,3} Although, the most frequent cause of EN was tuberculosis in developed countries once upon a time,⁵ recent reports show that beta hemolytic streptococcus infection is the most common underlying factor.^{1,2} However, tuberculosis and mycotic infections are still important causes of EN in other parts of the world.¹

EN is found only in primary tuberculosis and emergence of the cutaneous lesions usually accompanies positive tuberculin skin test.^{1,6} Mert et al. determined that 20% of EN with known etiology is due to primary tuberculosis.⁶ In addition, Cengiz et al reported two children to have primary tuberculosis out of 10 children with EN.⁷ They determined that although tuberculin test was positive for more than 20 mm, no other symptom suggesting tuberculosis was noted in these children. Similarly our patients had profound tuberculin test positivity, but she did not have neither any symptom suggesting tuberculosis, nor family history of tuberculosis.

Diagnosis of EN is usually made on the basis of physical examination alone and histopathological examination is not needed for diagnosis.^{2,4} Our patient had EN lesion for three weeks and she was suspected to have ecchymosis instead of EN. Differential

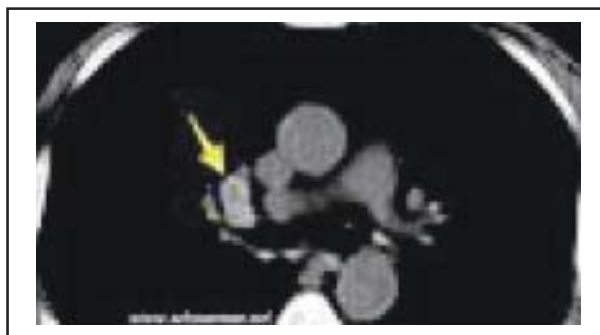


Fig-2: Thorax CT of the patient revealing Erythema Nodosum over left leg.

diagnosis of EN includes cellulitis, insect bite, thrombophlebitis and ecchymosis.⁸ However, since EN show a nodular nature extending to subcutaneous tissue, ecchymosis can be ruled out by palpation of the lesion. So it is obvious that proper physical examination consisting of inspection, palpation and percussion when necessary is still an important diagnostic tool.

EN of our patient recovered within 7 days. Cengiz et al. revealed that mean duration of EN disappearance ranged from 4 to 12 days with mean 8 days. Thus our patient did not have any delay in EN disappearance.

In conclusion, proper physical examination of patients presenting with tender indurations is important to detect EN and tuberculosis as a common cause of EN should be kept in mind.

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