

Case Report:

Ulcerative erythema nodosum: a rare entity

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ABSTRACT

We report an 18-year-old girl who presented with multiple recurrent nodulo-ulcerative lesions over arms and painful reddish nodular lesions over both legs and abdomen of 7 months duration. She was diagnosed to have Crohn's disease on the basis of clinical presentation and colonoscopy findings. Skin biopsy from lesion on shin showed septal panniculitis. She was diagnosed to have ulcerative erythema nodosum. Erythema Nodosum is an acute, tender, erythematous, subcutaneous nodular eruption that is typically located symmetrically on the extensor aspects of the lower extremities. Chronic or recurrent erythema nodosum is rare but may occur.

Key words: *Erythema nodosum, Panniculus, Inflammatory bowel disease*

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INTRODUCTION

Erythema nodosum is a type of panniculitis that affects the subcutaneous fat in the skin, usually first evident as erythematous nodules that are highly sensitive to touch.¹ Most nodules are located symmetrically on the ventral aspect of the lower extremities. Although erythema nodosum usually has no specific documented cause, it is imperative to investigate possible triggers. Streptococcal infections are the most common identifiable aetiology, especially in children. Drug and hormonal reactions, inflammatory bowel disease (IBD) and sarcoidosis are other common causes among adults.^{1,2} Often, erythema nodosum is a sign of a serious disorder that potentially is treatable; management of an underlying aetiology is the most definitive means of treating erythema nodosum. In adults, erythema nodosum is more common among women, with a male:female ratio of 1:6.^{3,4} In children, both genders are equally affected.² Peak incidence occurs at age

18-34 years. Age and gender distribution vary according to aetiology and geographic location.⁴

CASE REPORT

An 18-year-old girl, a resident of Lucknow (Uttar Pradesh State), presented with chief complaints of multiple, nodulo-ulcerative lesions over arms and painful reddish nodular lesions over both legs and abdomen of 7 months duration. Patient was apparently well till 7 months back when she noticed painful nodules over the arms. The nodules were initially red in color. Later, they ulcerated and healed by crusting and hyperpigmentation over a period of one month. Similar nodular lesions were also seen on forearms, legs and abdomen. The lesions usually manifested after a febrile episode. The patient also complained of loss of appetite, loss of weight associated with abdominal pain, altered bowel habits and generalized weakness. She had experienced two episodes of similar nature prior to the

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present episode. The first episode occurred 2 years back with painful eruptions restricted to anterior tibial surface which resolved over a period of 6-8 weeks, without any sequelae. Six months after the first episode, she again developed painful nodules on the shin on both sides and the arms as well. For these earlier episodes, she had taken treatment from a local practitioner after which she had improved symptomatically. There was no history of diabetes mellitus, tuberculosis, bronchial asthma and hypertension. General physical examination revealed that she was in distress and was looking ill. Her body weight was 38 kg. She was febrile (101°F), blood pressure was 120/70 mm Hg, pulse 74/min, respirations 18/min. Pallor was present; there was no icterus or lymphadenopathy. Oedema was evident over left foot. Dermatological examination revealed poorly defined, erythematous, painful nodules over the extensor aspects of the legs and the arms, bilaterally. The lesions were firm and



Figure 1: Clinical photograph showing ulcerative lesions of erythema nodosum on arms. The lesions were initially firm nodules, which later became fluctuant

tender. By the second week, the nodules on the arm became fluctuant and later ulcerated (Figure 1). The lesions were warm to touch. Fresh nodules continued to appear on the legs and arms over a period of 3 weeks interspersed with febrile episodes. A solitary ill-defined bruise like plaque measuring 6 x 7 cm was seen over the abdomen (Figure 2). The plaque was tender and warm. A large blotch-like patch measuring 10 × 12 cm was noticed over lateral aspect of buttock and adjoining region of the right thigh. Lesions on the shins (Figure 3) resolved without atrophy or scarring. However, nodules over the arms resulted in ulceration of the lesions. There was peri-anal inflammation (Figure 4) along with maceration of skin and sinus formation. A bruise like patch was seen over the left lower eyelid. Pathergy test was negative.

Laboratory investigations revealed haemoglobin 8.5 g/dL; total leucocyte count 3400/mm³; with a differential count of neutrophils 70%, lymphocytes 30%; platelet count 60,000/mm³; red blood cell (RBC) 2.79 count/mm³; mean corpuscular volume 89.9 fL; mean corpuscular volume 25%; mean corpuscular haemoglobin 30.6 pg; erythrocyte sedimentation rate 22 mm at the end of first hour; blood urea 16 mg/dL; serum creatinine 0.72 mg/dL; serum uric acid 30.2 mg/dL; serum sodium



Figure 2: Clinical photograph showing a solitary ill-defined bruise like plaque measuring 6 x 7 cm on the anterior abdominal wall. The plaque was firm, tender and warm



Figure 3: Clinical photograph showing erythema nodosum lesions on the shin. The nodules were distributed symmetrically on both shins and were exquisitely tender

119 mEq/L; serum potassium 3 mEq/L; ionic calcium 1.03 mmol/L; serum calcium 8 mg/dL; total serum proteins 6.5 g/dL; serum albumin 2.6 g/dL; serum bilirubin 0.39 mg/dL, alanine aminotransferase 60 IU/L, aspartate aminotransferase 110 IU/L, serum alkaline phosphatase 207 IU/L; serum T_3 0.982 ng/mL,



Figure 4: Clinical photograph showing ano-rectal lesions. Peri-anal inflammation along with maceration of skin and sinus formation can be seen

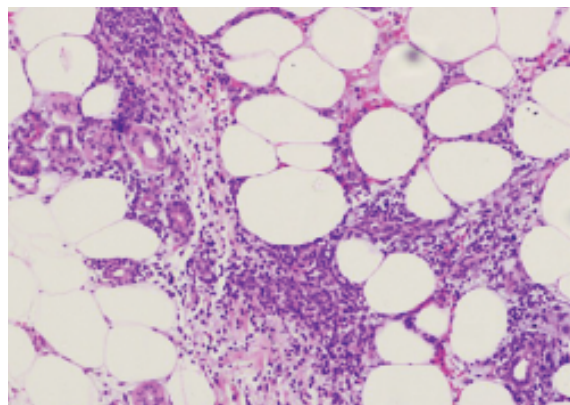


Figure 5: Skin biopsy from preitibial region. Photomicrograph showing septal panniculitis. The inflammation is mainly in the septae with lymphohistiocytic peri-vascular infiltrate (Haematoxylin and eosin, × 100)

T_4 8.24 mg/dL, serum thyroid stimulating hormone 1.31 μ IU/mL; C-reactive protein tested positive; antinuclear antibody negative; rheumatoid factor negative; hepatitis B surface antigen negative. Serological testing for hepatitis C virus and human immunodeficiency virus were negative. Urinalysis revealed protein 2+, red blood cells 20-30/high power field; Mantoux test (5 Tuberculin units) was negative after 72 hours; polymerase chain reaction for *Mycobacterium tuberculosis* from sputum was negative. Contrast enhanced computed tomography of abdomen showed mild hepatosplenomegaly, inflamed thickened bowel wall with signs of inflammation in pelvic cavity and minimal ascites. Few mesenteric lymph nodes were also seen. Subcutaneous oedema was present in anterior abdominal wall. Colonoscopy revealed signs of proctitis with loss of vascular appearance of the colon with erythema and friability of the mucosa. At a few places cobblestone appearance of the mucosa was seen with longitudinal ulceration. Skin biopsy from the shin showed septal panniculitis (Figure 5).

She was initially treated with oral ciprofloxacin 500 mg twice daily for 7 days, clofazimine 100 mg thrice daily for 30 days and topical mupirocin over the ulcerated lesions. Based on

history of weight loss, altered bowel habits, loss of appetite and anaemia; contrast enhanced CT abdomen findings of bowel wall thickening with signs of inflammation, mild hepatosplenomegaly, minimal ascites, mesenteric lymphadenopathy; colonoscopy finding of ano-rectal lesions with signs of proctitis, inflammation and loss of vascular appearance of the colon, the patient was diagnosed to have Crohn's Disease.⁵

She was then started on oral prednisolone 10 mg once daily for 15 days and sulphasalazine 500 mg thrice daily for 4 months along with haematinics to which patient has responded satisfactorily. The patient is on regular follow-up.

DISCUSSION

Erythema nodosum and pyoderma gangrenosum are the inflammatory cutaneous disorders most commonly associated with IBD. These two skin manifestations occur in 3% - 12% of patients with IBD.⁶⁻⁸ Erythema nodosum is more common in women with IBD especially in patients with Crohn's disease; it typically appears as painful, red, subcutaneous nodules on extensor surfaces and mirrors disease activity.⁹ Less common variants of erythema nodosum include: ulcerating forms, seen in Crohn's disease;¹⁰ erythema contusiforme, an erythema nodosum lesion with subcutaneous haemorrhage;¹⁰ chronic erythema nodosum, more likely to be unilateral and migratory;¹⁰ erythema nodosum migrans, (also known as subacute nodular migratory panniculitis), a form of erythema nodosum with lesions that spread centrifugally with central clearing;¹⁰ and a form of chronic erythema nodosum.¹¹ Biopsy shows septal panniculitis.

Other causes of erythema nodosum include: idiopathic (in up to 55%); infections: streptococcal pharyngitis (28%-48%), other infections due to *Yersinia* (in Europe),

Mycoplasma, *chlamydia*, histoplasmosis, coccidioidomycosis, and *Mycobacteria*; sarcoidosis (11%-25%); drugs (3%-10%): antibiotics (e.g., sulphonamides, amoxycillin), oral contraceptives; pregnancy (2%-5%). Rare (< 1%) causes includes various viral, bacterial, parasitic infections, other malignancies.

Our case reiterates the observation that ulcerative erythema nodosum is frequently associated with IBD, especially Crohn's disease.

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