Erythema Induratum of Bazin: A Rare Finding in an Old Woman with Subcutaneous Nodules in the Lower Limbs

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**Abstract**

Erythema induratum of Bazin (EIB) is a chronic nodular eruption that frequently occurs on lower legs of young or middle-aged women. The clinical manifestations of EIB revealed various dermatological disorders that can be easily leads to misdiagnosis. We report a case of a 50-year-old woman who initially presented with EIB. The histopathological specimen was collected from her medial aspect of let leg. The epidermis is unremarkable. The dermis shows fibro fatty tissue, skin adnexae and foci of granuloma with Langhans type of giant cells and some lymphocytic infiltration in the deep dermis which was suggestive of erythema induratum. Her lesions responded to antitubercular therapy (ATT). This case study may help extend the therapeutic regimens for cutaneous tuberculosis.

**Keywords:** Erythema induratum of Bazin, tuberculosis, panniculitis

**Introduction**

Erythema induratum (EI), also known as Bazin disease or nodular vasculitis, is a chronic nodular skin disease that is thought consequences of immunologic reactions to dispersed antigenic components of Mycobacterium tuberculosis. The disease preferentially affects the posterior and anterolateral aspects of the lower legs of young and middle-aged women. It can also occur in other locations as well as in men and children.

In histopathology, EI lesions appear as a granulomatous panniculitis, vasculitis, as well as granulomatous inflammation with caseous necrosis, epithelioid cells, and multinucleated giant cell. EI is very rare in Bangladesh. Since this is a potentially curable disease, early diagnosis with some investigations like skin biopsy with histopathology, PCR test, positive Mantoux test and prompt anti-TB medication initiation should be done.

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**Case Summary**

A 50-year-old lady presented with history of recurrent crops of swellings on both legs for the past 3 years, each crop subsiding with 2-4 weeks, leaving behind hyperpigmentation. There was no history of associated constitutional features or systemic complaints. She had body

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swellings and had her family history as her
daughter had bone tuberculosis. She had multiple
discrete, erythematous tender subcutaneous
nodules and diffuse brownish black pigmentation
on anteromedial and posterior aspects of both
legs and ankles (Fig.1).

We made a clinical diagnosis of panniculitis. Skin
biopsy from a nodule on leg revealed lobular
panniculitis in the subcutaneous fat with vasculitis
producing ischemic necrosis of fat globules, foci
of caseous and coagulative necrosis. Epithelioid
cells, lymphocytes and giant cells forming broad
zones of inflammation surrounding necrosis were
seen (Fig. 2). Ziehl-Neelsen stain showed no
acid-fast bacilli. The histopathology was
suggestive of erythema induratum. Blood
investigations showed raised ESR level of 106
mm in the first hour. Rest of the investigations
which included hemogram, renal and liver
function test and urine examination were normal.
Mantoux test was positive (12 mm induration).

Chest x-ray revealed normal findings. She was
started on antitubercular therapy (ATT). She
responded to ATT and the lesions started to
resolve. The differential diagnoses in this case
included erythema nodosum, sclerosing
panniculitis and polyarteritis nodosa. She was put
on a six-month treatment schedule that consisted
of 2 months of isoniazid, rifampicin, ethambutol,
and pyrazinamide and later 4 months of isoniazid,
rifampicin and ethambutol. Patient follow-up was
assessed every month. After 2 months of
intensive therapy, the nodules disappeared, and
the erythema turned a dark, reddish-brown
colour. Adverse events were not observed.

Fig 1: Photo of the patient with erythema
induratum at her lower limb.

Fig. 2: Histopathological examination revealed
lobular panniculitis with tuberculoid granulomas.

Discussion

EI was first described by Bazin in 1861, is
characterized by chronic, tender, erythematoviolaceous, indurated subcutaneous nodules on
the lower extremities of women caused by
tuberculin hypersensitivity. There has some
debate due to some common clinical features
between organism (Mycobacterium tuberculosis)
and EIB as Mycobacterium TB found sporadically
only from the skin lesions and most patients
appears with no common symptoms of active
tuberculosis. Recently, EIB has been classified as a tuberculid, which is a type of hematogenous cutaneous tuberculosis (CTB). EIB has been reported as the most common form of CTB in Asia, including China, Taiwan, Japan, and in some parts of South America. Both females and males can be affected by EIB, but around 80% of patients with EIB are females. The age of onset ranges from early childhood to late adulthood.

To detect the presence of MTB from skin lesions, PCR test for MTB DNA detection and positive Mantoux test (>15 mm) should be carried out for confirmation. We did histopathology from the lesions and found granulomatous lobular panniculitis and presence of chronic inflammatory cells in and around the blood vessels which were suggestive of erythema induratum. However, the patient may present with EIB and is subsequently diagnosed with cavitary TB lesions. In our case study, MTB DNA was not detected by PCR with a positive Mantoux test (12 mm). After detection, we have started the treatment mentioned earlier. After continuing the treatment of 2 months, the skin lesion improved and after 4 months, it disappeared.

Conclusion
To conclude, our case of old female patient presenting with EIB as an initial skin manifestation, led to the detection of erythema induratum. The clinical manifestations of erythema induratum could be explained by the maturation of host immunity. As this is a rare case in Bangladesh and potentially curable, such cases needs to be investigated cautiously for early detection and appropriate management.

References