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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.

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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.[1] The disease preferentially affects the posterior and anterolateral aspects of the lower legs of young and middle-aged women.[1,2] It can also occur in other locations as well as in men and children.[1]

In histopathology, EI lesions appear as a granulomatous panniculitis, vasculitis, as well as granulomatous inflammation with caseous necrosis, epithelioid cells, and multinucleated giant cell.[3] 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.[2,3]

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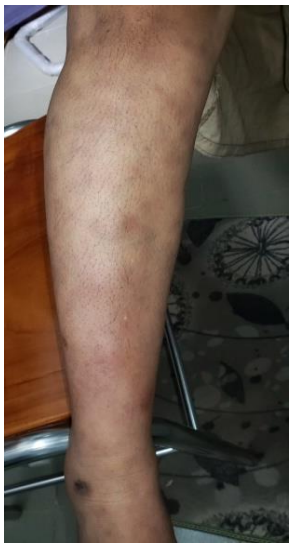
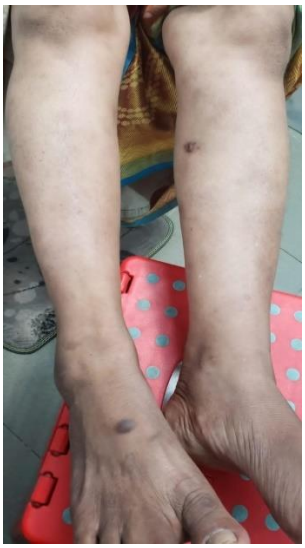
swellings and had her family history as her daughter had bone tuberculosis. She had multiple discrete, erythematous tender subcutaneous nodules and diffuse brownish black pigmentation on anteromedial and posterior aspects of both legs and ankles (Fig.1).



Before treatment



2 months after treatment

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

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. Epitheliod 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 stared 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.

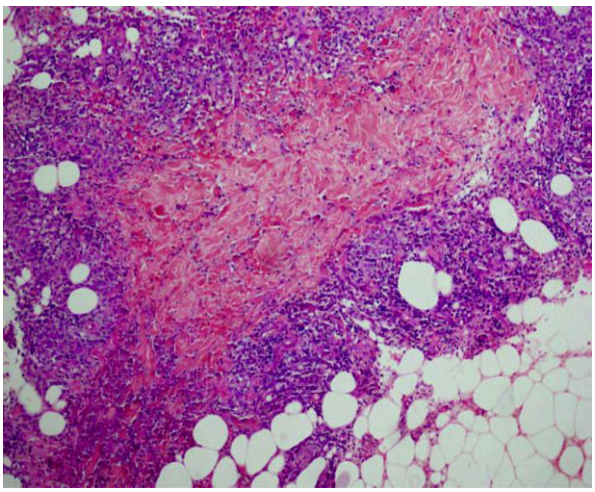


Fig. 2: Histopathological examination revealed lobular panniculitis with tuberculoid granulomas.

Discussion

EI was first described by Bazin in 1861, is characterized by chronic, tender, erythemato-violaceous, indurated subcutaneous nodules on the lower extremities of women caused by tuberculin hypersensitivity.[4] 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.[5] 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.[2,6,7] 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.[2,3]

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.[2,6-8] 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.[7] 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

1. *Motswaledi HM, Schulz EJ. Superficial thrombophlebitic tuberculide. Int J Dermatol. 2006;45(11):1337-40.*
2. *Chen Y-H, Yan J-J, Chao S-C, Lee J Y-Y. Erythema induratum: a clinicopathologic and polymerase chain reaction study. J Formos Med Assoc. 2001;100(4):244-9.*
3. *Cho KH. Inflammatory nodules of the leg. Ann Dermatol. 2012;24(4):383-92.*
4. *Bazin E. Lecons Theoriques et Cliniques sur le Scrofule. 2nd ed. Paris: Delahaye; 1861:146.*
5. *Rademaker M, Lowe DG, Munro DD. Erythema induratum (Bazin's disease). J Am Acad Dermatol. 1989;21(4 Pt 1):740-5*
6. *van Zyl L, du Plessis J, Viljoen J. Cutaneous tuberculosis overview and current treatment regimens. Tuberculosis (Edinb). 2015;95(6):629-38.*
7. *Yang K, Li T, Zhu X, Zou Y, Liu D. Erythema induratum of Bazin as an indicative manifestation of cavitary tuberculosis in an adolescent: a case report. BMC Infect Dis. 2021;21(1):747.*
8. *Baselga E, Margall N, Barnadas MA, Coll P, de Moragas JM. Detection of Mycobacterium tuberculosis DNA in lobular granulomatous panniculitis (erythema induratumnodular vasculitis). Arch Dermatol. 1997;133(4):457-62.*