Lichen scrofulosorum: An uncommon manifestation of a common disease

Sir,

A tuberculid is a cutaneous immunologic reaction to the presence of tuberculosis, which is often occult. Currently, only three entities are regarded as true tuberculids: (1) papulonecrotic tuberculid, (2) lichen scrofulosorum (LS), and (3) erythema induratum.[1] LS is a rare tuberculid, presenting as lichenoid papules in children and young adults with tuberculosis. Patients with LS have a strongly positive tuberculin reaction and have an excellent response to the treatment with antituberculous drugs.[1] LS usually accompanies active tuberculosis, which can either be in an early or late stage.

A 30-year-old female came with complaints of skin rashes over the trunk and loin regions for the past 2 years. There was no history of fever, cough, or any other systemic symptoms. Past and family history did not reveal any significant illness. Physical examination found a nontender, firm, and matted bilateral enlargement of the supraclavicular nodes, measuring < 1 cm. Cutaneous examination revealed multiple, grouped, erythematous, 2–3 mm, lichenoid follicular and extrafollicular papules over both anterior and posterior aspects of the trunk and loin [Figure 1].

Laboratory investigations found normal complete blood cell count, renal and hepatic functions, urinalysis, and chest radiograph. Erythrocyte sedimentation rate was 52 mm in the 1st h and the Mantoux test was reactive, with an induration of 17 mm. Fine-needle aspiration cytology from an enlarged cervical lymph node showed granulomatous infiltrate comprising epithelioid cells, Langhans giant cells, and few lymphocytes, consistent with tuberculous lymphadenitis. Stain and culture for acid-fast bacilli were negative. Skin biopsy showed perifollicular tuberculoid granulomatous inflammation comprising lymphocyte and epithelioid cells. Another similar focus was present in the mid-dermis around a vessel. Tubercle bacilli could not be detected on acid-fast staining, and a culture for Mycobacterium *tuberculosis* was sterile. A standard 6-month regimen of antituberculous therapy (ATT) was instituted and the patient is currently on follow-up.

LS is a rare tuberculid, first recognized by Hebra in 1868,[2] that occurs mostly in children and young adults. The eruption consists of tiny, perifollicular, lichenoid papules arranged in groups. The papules have a flat top or there might be a minute horny spine or fine scale on their surface. The size of an individual papule rarely exceeds

5 mm. They are mainly found on the abdomen, chest, and back and involute after several months, leaving no scars. Histopathology reveals noncaseating granulomas in the papillary dermis usually surrounding a hair follicle or a sweat gland. The granuloma is composed of epithelioid cells with a few Langhans giant cells and a narrow rim of lymphocytes. Neither tubercle bacilli are seen in the pathologic sections, nor can they be cultured from the skin biopsy material.[3]

Differential diagnosis includes all asymptomatic follicular lesions such as keratosis pilaris, lichen spinulosus, lichen nitidus, pityriasis rubra pilaris, and lichenoid sarcoidosis. The pathogenesis of tuberculids is poorly understood. All tuberculids are thought to be due to hematogeneous dissemination of the bacilli in a person with moderate or high degree of immunity against *M. tuberculosis*.[1] However, it is not possible to detect the tubercle bacilli in tuberculids, either because they are present in fragmented form or because they have been destroyed at the site of tuberculids by immunologic mechanisms. Mycobacterial DNA can be detected in some lesions using the polymerase chain reaction technique.

Previously, LS was reported in association with some forms of extrapulmonary tuberculosis, especially that of the lymph nodes and bones, or both; however, recently, it has also been reported with pulmonary tuberculosis and with Mycobacterium *avium* infection.[4] It has also been reported to occur after Bacillus Calmette-Guerin vaccination. These forms of extrapulmonary tuberculosis are characterized by high tuberculin positivity, indicating a greater degree of tissue hypersensitivity. This confirms the pathogenic basis of LS as a delayed type IV hypersensitivity response. Similarly, LS is more common in children, probably due to a higher degree of tissue hypersensitivity to M. *tuberculosis* as compared to adults. A greater predisposition to develop extrapulmonary tuberculosis in children and a gradual decrease in delayed hypersensitivity with advancing age are the likely factors influencing the age distribution of this eruption.

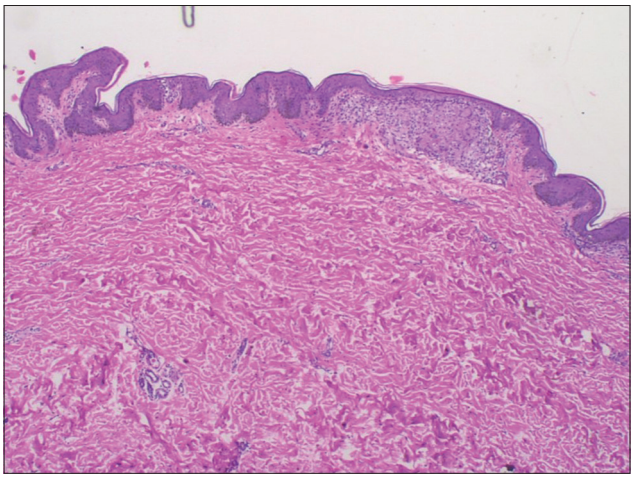

Figure 1: Skin biopsy showing tuberculoid granulomatous inflammation consisting of lymphocyte and epithelioid cells in the perifollicular area and mid-dermis around a vessel

A high index of suspicion and awareness about this entity is needed for diagnosis. As these lesions are subtle and asymptomatic, neither the patient nor the physician may give it enough importance and thus may miss the diagnosis. These patients have an excellent response to the ATT, irrespective of the presence or absence of an associated tubercular focus.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understand that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

Nirmal Chand Kajal, P Prasanth, Ritu Dadra

Department of Chest and TB, Government Medical College, Amritsar, Punjab, India.
E-mail: drprasanth1392@gmail.com

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