

Bilateral Scrofuloderma of the Axilla Masquerading as Hidradenitis Suppurativa

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Sir,

Scrofuloderma is a cutaneous manifestation of tuberculosis that results from direct extension of an underlying tuberculous focus, such as lymph node to the overlying skin. It occurs mainly on the skin over the cervical lymph nodes or above the bony areas. The clinical appearance is characterized by subcutaneous nodules that enlarge gradually and suppurate to form sinus tracts, which can become draining fistulas. When strictly confined to the apocrine gland body areas, these clinical features are also the hallmark of hidradenitis suppurativa. We report here a rare case of scrofuloderma of the axillary areas that clinically mimicked chronic hidradenitis suppurativa and that was misdiagnosed for several years.

CASE REPORT

A 97-year-old man was admitted to our department with a several year history of depressed scars in both axillae. Initially, the lesions had appeared as firm, subcutaneous nodules that had been gradually enlarging and had led to chronic suppuration and ulcer formation. All of the ulcers had completely healed but with disfiguring scarring. With the diagnosis of hidradenitis suppurativa the patient had undergone wide surgical excision of the affected skin, afterwards some of the lesions had recurred locally. On admission, the patient showed no symptoms of focal or systemic infection, and had no history of acute illness or trauma. His past medical history was unremarkable, he was taking no medications. Physical examination revealed a scar tethered to a subcutaneous mass in the right axilla and multiple puckered, hypertrophic scars overlying palpable nodules in the left axilla (Fig. 1). Mild purulent drainage was present. He also had bilateral axillary lymphadenopathy with lymph node calcification and cutaneous fistulas detected by ultrasound. A biopsy showed massive necrosis and abscess formation, and poorly formed caseous tubercles composed of lymphocytes, plasma

cells, macrophages, epitheloid cells and multinucleated giant cells (Fig. 2a). Immunohistochemical staining for *Mycobacteria* revealed the presence of multiple acid-fast bacilli (Fig. 2b). On polymerase chain reaction (PCR) testing, the biopsy specimen was negative. A purified protein derivative (PPD RT 23 SSI 2 T.U.) test showed a strongly positive reaction (20 mm infiltration), systemic examination was unremarkable. The diagnosis of scrofuloderma (*Tuberculosis cutis colliquativa*) was made and the patient was started on rifampicin, isoniazid and pyrazinamide. Within a month of therapy, the scrofuloderma had resolved. After 8 weeks, the culture from the biopsy became positive for *M. bovis*. Antibiotic susceptibility testing confirmed an innate resistance against pyrazinamide and therapy was continued with rifampicin and isoniazid for a total of 9 months.

DISCUSSION

Scrofuloderma is a cutaneous manifestation of tuberculosis that results from breakdown of skin overlying a tuberculosis focus, usually at a lymph node (1). This leads to the formation of "cold abscesses" in the skin that gradually enlarge, result in formation of ulcers and multiple skin fistulas with drainage of purulent discharge (2). Healing occurs very slowly, resulting in irregular, hypertrophic scars. It is often associated with systemic tuberculosis (3). Cervical gland infection (parotid, submandibular, and supraclavicular regions) seems to be the commonest underlying focus, with the face and neck being the most frequently affected skin sites (4). Not uncommonly, scrofuloderma secondary to bone and joint involvement sometimes presents to the orthopaedic surgeon (5). Tuberculin sensitivity is usually marked.

The onset of hidradenitis suppurativa is usually after puberty, when the apocrine sweat glands start developing, but it can also affect elderly patients. The early

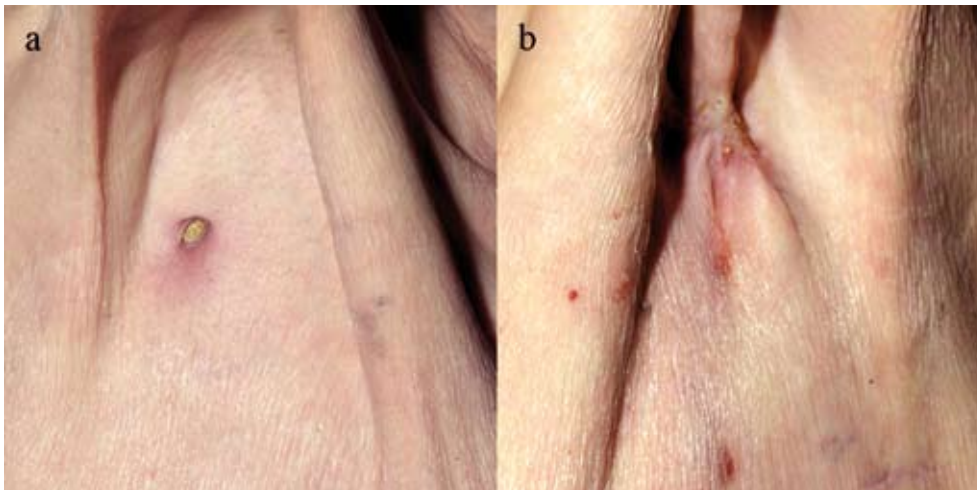


Fig. 1. Bilateral scrofuloderma of the axillary regions caused by *Mycobacterium bovis* infection. Clinical picture showing depressed hypertrophic scars in the (a) right and (b) left axilla.

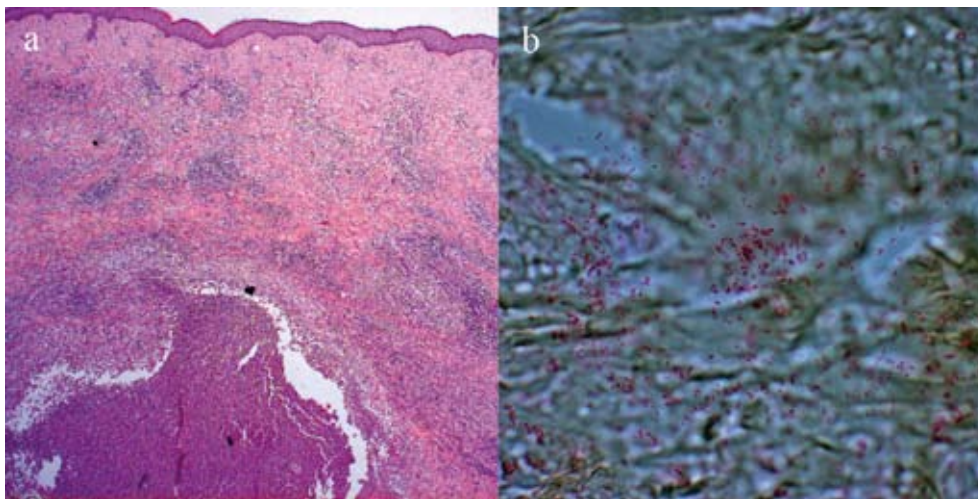


Fig. 2. (a) Photomicrograph from a biopsy specimen showing necrosis, abscess formation and caseous tubercles (H&E, original magnification $\times 100$). (b) Mycobacteria staining showing multiple acid-fast bacilli (original magnification $\times 300$).

lesions are solitary, painful nodules that may persist for weeks or months without any change. If subcutaneous extension occurs, it may appear as indurated plaques. The nodules develop into abscesses and eventually rupture externally, draining purulent material. Healing occurs with dense fibrosis and marked scarring, and recurrences crop up in and around the original site. This leads to chronic sinus formation. In contrast to scrofuloderma, regional lymphadenopathy is characteristically absent.

In the 1930s, 40% of cows in the UK were infected with *M. bovis* and there were 50,000 new cases of human *M. bovis* infection every year (6). Transmission to humans occurs usually via infected milk, although it can also occur via aerosol droplets. Actual infections in humans are rare due to pasteurization killing any bacteria in infected milk. However, in areas of the developing world where pasteurization is not routine, *M. bovis* is a relatively common cause of human tuberculosis (7). It can be transmitted from human to human – there was an outbreak in Birmingham, UK, in 2004 – and from human to cattle (8, 9), but such occurrences are rare. Historically, a high prevalence of scrofuloderma was seen in children infected with *M. bovis* from contaminated milk.

Our patient was not living in a high-risk population for tuberculosis infection and was therefore considered low-risk. Apart from high age, he had no risk factors for tuberculosis reactivation. Notably, the clinical manifestation was strictly confined to the axillary areas. A detailed medical history revealed that he was raised on a farm in an area with a high prevalence of childhood tuberculosis transmitted via contaminated unpasteurized milk.

In conclusion, clinicians should consider axillary scrofuloderma as a rare differential diagnosis in elderly patients with suspected chronic hidradenitis suppurativa showing an atypical clinical course. In clinically unclear cases, an ultrasound examination and/or a biopsy should be made.

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REFERENCES

1. Lai-Cheong JE, Perez A, Tang V, Martinez A, Hill V, Menagé Hdu P. Cutaneous manifestations of tuberculosis. *Clin Exp Dermatol* 2007; 32: 461–466.
2. Sehgal VN, Wagh SA. Cutaneous tuberculosis. Current concepts. *Int J Dermatol* 1990; 29: 237–252.
3. Barbagallo J, Tager P, Ingleton R, Hirsch RJ, Weinberg JM. Cutaneous tuberculosis: diagnosis and treatment. *Am J Clin Dermatol* 2002; 3: 319–328.
4. Ramesh V, Misra RS, Jain RK. Secondary tuberculosis of the skin. Clinical features and problems in laboratory diagnosis. *Int J Dermatol* 1987; 26: 578–581.
5. Connolly B, Pitcher JD Jr, Roth B, Youngberg RA, Devine J. Scrofuloderma of the lower extremity treated with wide resection: a case report and review of the literature. *Am J Orthop* 1999; 28: 417–420.
6. Reynolds D. A review of tuberculosis science and policy in Great Britain. *Vet Microbiol* 2006; 112: 119–126.
7. O'Reilly LM, Daborn CJ. The epidemiology of *Mycobacterium bovis* infections in animals and man: a review. *Tuber Lung Dis* 1995; 76: 1–46.
8. Griffith AS, Munro WT. Human pulmonary tuberculosis of bovine origin in Great Britain. *J Hyg* 1944; 43: 229–240.
9. Tice FJ. Man, a source of bovine tuberculosis in cattle. *Cornell Vet* 1944; 34: 363–365.