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CORRESPONDENCE

Recurrent metastatic tuberculous gummata with a unique para-spinal tuberculous abscess

Cutaneous manifestations of disseminated tuberculosis (TB) are uncommon and are seen in less than 0.5% of cases [1]. Tuberculous gumma; a form of disseminated TB, arises independently of any apparent adjacent tuberculous focus, and is the result of haematogenous dissemination from a primary focus during periods of bacillaemia and lowered resistance, resulting in a single or multiple lesions. [2].

We report a 23-year-old male who presented with 2 painless nodules on his left flank, one of which became ulcerated with a scanty serous discharge within a few days. At the same time, the patient experienced a slowly progressive dull-aching backache, dry cough, and dyspnea.

His past medical history revealed pulmonary TB 3 years previously, which was treated by conventional anti-tuberculous therapy for 9 months (rifampicin, isoniazid, and streptomycin for 3 months followed by rifampicin and isoniazid for 6 months). One year later, he developed multiple painless nodules on the chest, which became fluctuant. The overlying skin gradually broke into ulcers with sinuses. He sought medical advice and received streptomycin injections for one month. Then he had his lesions drained under general anaesthesia, followed by postoperative streptomycin injections for another month. Healing of the lesions progressed slowly, with bluish puckered scarring.

On physical examination, the patient had an oral temperature of 37.8 °C, and mild pallor. Bluish tethered retracted scars of past lesions were evident at right axillary fold, sternum, and left infra-mammary area *(figure 1A)*. A non-tender swelling, together with an ulcer with undermined edges and serous discharge, were present on the left flank *(figure 1B)*. Lymph node examinations revealed firm, enlarged, mobile, non-tender, lower cervical and left axillary lymph nodes. Chest examination revealed a wheezy chest. CBC revealed mild normocytic normochromic anemia (Hb%: 9.1 gm%). ESR was highly elevated (129). Serology for HIV using both ELISA and western blot techniques was negative. A Mantoux test was non-reactive at 48 hours. Although induced sputum samples were negative for acid-fast bacilli, a smear from the undermined edge of the ulcer on the left flank showed acid-fast bacilli. Mycobacterium tuberculosis was recovered from the smear after 6 weeks of culture on Löwenstein Jensen medium. PCR was not performed. A chest X-ray revealed clear lung fields, a posterior mediastinal shadow, and a normal vertebral column *(figure 1C)*. Chest CT scanning showed a large, para-spinal, cystic loculated posterior mediastinal lesion, extending from T3 to L2, and displacing mediastinal structures. However, vertebral bodies appeared intact with no evidence of Pott's disease of the spine *(figure 1D)*.

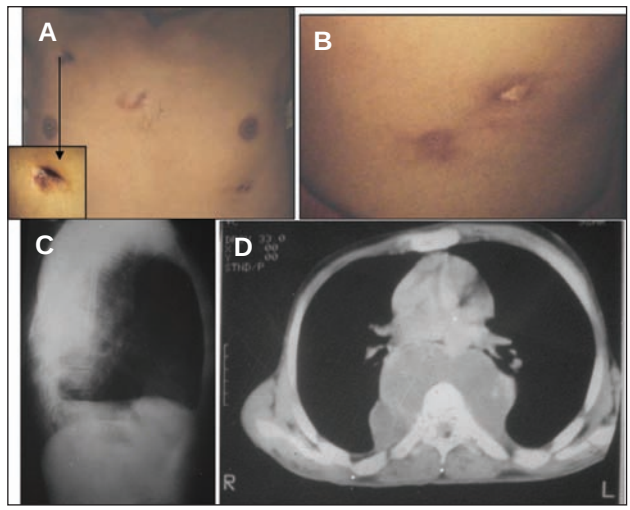

Figure 1. A) Puckered scars of old TB gummata at right axillary fold, sternum, and left infra-mammary area. **B)** The 2 presenting TB gummatous lesions on the left flank. **C)** Chest X-ray, lateral view showing clear lung fields, posterior mediastinal mass and normal vertebral column. **D)** Chest CT scan showing posterior mediastinal cystic swelling with normal vertebral column.

In view of the previous history of pulmonary TB, previous similar cutaneous conditions, and the clinico-pathological features of the skin lesions presented, the diagnosis was recurrent metastatic tuberculous gummata. However, for the posterior mediastinal para-spinal cystic swelling, it was difficult to ascertain the primarily affected structure, although the possibility of the mediastinal lymph glands was highly suggested.

We planned to give the patient quadruple anti-tuberculous therapy (rifampicin, isoniazid, pyrazinamide and ethambutol) for 3 months, to be followed by rifampicin and isoniazid for several months. Isoniazid was planned to be given in high dose (16 mg/kg) to improve the standard protocol.

Tuberculous gumma, also known as metastatic tuberculous abscess, may emerge during treatment for pulmonary TB (paradoxical response) [3]; which does not necessarily indicate drug resistance or treatment failure [4].

On examination, our patient had no open pulmonary TB, but he had a large mediastinal para-spinal TB abscess. According to Steidle *et al.*, the possibility of the formation of a cold abscess via liquefaction of specifically infected lymph nodes must be included in the differential diagnosis of mediastinal enlargement [5]. What was unique about our patient is that the posterior mediastinal tuberculous collection was not associated with Pott's disease of the spine or active disease elsewhere. Whether the term "metastatic

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tuberculous gumma" could be applied, not only to cutaneous-, but also to visceral tuberculous lesions without any apparent underlying tuberculous focus, or not, remains to be elucidated, because, to the best of our knowledge, no previous report of this condition has been communicated in the literature.
Like other cutaneous TB, multiple lesions are frequent in immuno-suppressed patients. Corbett *et al.* reported disseminated cutaneous TB in 4 HIV positive patients, who also had pulmonary TB [6]. However, our case had multi-system involvement even though he was HIV negative.
There is no universally accepted chemotherapy regimen for metastatic tuberculous abscesses. The standard triple regimens for the prevention of recurrences are usually recommended; however, it was proven not to be effective in our case.
In conclusion, tuberculous infection involving multiple systems as in the reported case is very rare. The case reported had multi-system tuberculous involvement, with recurrent metastatic tuberculous gummata, even though he was previously under anti-tuberculous treatment and was HIV negative. Thus, an extended modified anti-tuberculous regimen should be considered for such cases. ■

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Nephrogenic fibrosing dermopathy/ nephrogenic systemic fibrosis

A 66-year-old woman came to our attention for the appearance of sclerotic and painful plaques involving the thighs and legs, with a wooden consistency, associated with a restricted mobility of her joints.
She had been under haemodialysis from 7 years, after membranous nephropathy. She suffered from widespread atherosclerotic disease and she had been investigated with repeated magnetic resonance angiography. For the latest, in February 2007, 40 mL of gadopentetate dimeglumine was used as a contrast-agent. From March 2007, she complained of loss of muscular strength associated with cutaneous and muscular rigidity. An electromyogram of the lower extremities was unremarkable. A possible diagnosis of progressive systemic sclerosis was considered. A biopsy was taken, including skin, subcutis and muscle on her left thigh. The epidermis was thinned and slightly atrophic *(figure 1A)*. The reticular dermis and the subcutaneous tissue showed cellulated broad bands of fibrotic collagen bundles intersecting in a haphazard fashion between lobules of mature adipose tissue without a significant inflammatory component. Mytoses were absent. Mucin was detectable between collagen bundles with Alcian Blue staining. Masson Trichromic staining showed increased collagen production. Fragmentation of elastic fibers was strongly evident with Gomori staining. Muscular tissue and muscular fascia were normal. Immunohistochemical studies showed a strong expression of CD34 antibodies in dermal and subcutaneous spindle cells which appeared distributed in a characteristic fibril-like pattern surrounding collagen bundles *(figure 1B)*. Evidence of some multinucleated cells was detectable with CD68-KP1 staining.
Considering the clinical and histological data we made a diagnosis of NSF.
This disease has been reported in association with erythropoietin, Gadolinium-containing contrast agents, vascular surgery or toxins.
Since our patient has been exposed many times to Magnetic Resonance, we performed a spectrophotometric examination on a bioptic sample of cutaneous tissue (Institute of Pharmacology, University of Turin). Spectophotometric analysis detected 465 ng/g of Gadolinium. We sent our data to AIFA (Italian Association of Pharmacology), in order to register it as a possible important adverse event due to Gadolinium-containing contrast agents.
There is no specific therapy for this disease and death has been reported. Only physical therapy was attempted, without benefit, and the patient became chair-ridden in seven months. The patient is now being considered for renal transplantation as a possible option to stop the disease progression.

Discussion

Nephrogenic Fibrosing Dermopathy is considered an acquired disease observed in patients with terminal renal

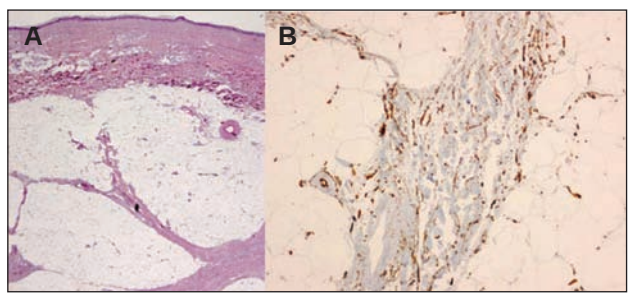

Figure 1. A) 2×, Hematoxylin-Eosin staining. The epidermis appears thinner and slightly atrophic with an underlying superficial dermis which is relatively unremarkable. The reticular dermis and the subcutaneous tissue show broad bands of fibrosis intersecting in a haphazard fashion between lobules of mature adipose tissue without any significant inflammatory component. **B)** 10×, CD34 staining. Many spindle cells between collagen bundles are CD-34 positive showing a myofibroblastic-like aspect.

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