

Subcutaneous tubercular cold abscess: Uncommon presentation of a common disease

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Case report

A 14 year old girl presented to our out-patient department with a complaint of swelling in the right side of the lower para-spinal area which was gradually increasing for the last six weeks. There was no history of fever or any other systemic features. She was well built with a weight of 43 kg and a height of 153 cm (body mass index 18.3). There was



Figure 1: Tubercular cold abscess with discharging sinus

no significant past history. Local examination showed a fluctuant, non-pulsatile swelling measuring 10 cm x 14 cm, local temperature not raised, non-tender and in the subcutaneous plane not fixed to underlying structures (Figure 1).

There was no regional lymphadenopathy and the systemic examination was unremarkable. There was no local spinal or adjacent hip joint tenderness. She had received 2 courses of antibiotics before coming to our facility. She had no history of repeated infections. A provisional diagnosis of antiabioma or chronic abscess was made. Ultrasonography (USG) showed two adjacent hypoechoic areas measuring 8.2 cm x 3.5 cm x 7.1 cm (volume - 107.3cc) and 4.2 cm x 3.1 cm x 4.0 cm (volume - 28.2cc) respectively (Figure 2).



Figure 2: Ultrasonography findings depicting subcutaneous abscess

Tubercular cold abscess had to be excluded due its epidemiological importance. Fine needle aspiration cytology (FNAC) of the swelling showed a granuloma suggestive of tuberculosis but staining for acid fast bacilli was negative and culture for mycobacterium was also negative. As no source of tuberculosis was found, pus from the abscess was sent for gene Xpert real time PCR which confirmed the presence of rifampicin sensitive mycobacterium tuberculosis. She had no history of contact with tuberculosis. X-rays of hip joints, thigh and spine were done but showed no bony abnormalities or evidence of chronic osteomyelitis (Figure 3).

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Figure 3: X-ray of spine

On further detailed investigations, chest X-ray (Figure 4), gastric aspirate for AFB, erythrocyte sedimentation rate, and ultrasound of abdomen were done but no evidence of tuberculosis at any other site was found.



Figure 4: Chest x-ray

Contact screening of caregivers was also non-contributory. Child had received Bacillus-Calmette-Guérin (BCG) vaccination at birth (mark present on left shoulder) and Mantoux test was positive

measuring 15 mm. She was non-reactive for human immunodeficiency virus (HIV). On follow up, the abscess spontaneously ruptured and a sinus was formed. She was started on anti-tubercular therapy under DOTS (Directly Observed Treatment, Short Course). She is currently under regular follow up. The swelling has reduced in size but still is draining pus from sinus. Frequent aseptic dressing is being done on follow up.

Discussion

Tubercular cold abscess is a long known entity. There have been occasional reports of cold abscess caused by mycobacterium tuberculosis at unusual sites like the sternum, breast tissue, corpus cavernosum, and tongue, mostly in adults¹. Otherwise, isolated subcutaneous abscess without any other evidence of tuberculosis is very unusual especially in children. That is why these types of cases raise some questions regarding their pathogenesis in a healthy child as in our case. One case series from South India reported three infants with isolated primary tubercular gluteal abscess². Extra pulmonary manifestations of TB are less common but not rare. These can arise from the spread of infectious secretions through the gastrointestinal and respiratory tracts, contiguous spread, or lymphogenous and/or haematogenous dissemination³. Cold abscess is described as an abscess without the characteristic signs of inflammation. It may be present in immunodeficiency disorders, deep mycoses as in coccidioidomycosis, blastomycosis, nocardiosis, actinomycosis and other non-infectious diseases like intramuscular injection of clindamycin, penicillin etc⁴ and also in patients with hyperimmunoglobulin E syndrome⁵.

Confirmation of the disease requires biopsy demonstrating acid-fast bacilli on microscopy or isolated in culture of the organism. But its usefulness gets limited by the long time required for the result and chance of false negative results in pauci-bacillary disease. In contrast with pulmonary TB, extra pulmonary TB lesions have a lower amount of bacilli, resulting in less accurate results from microscopy⁶. PCR has been an effective diagnostic tool for pulmonary TB and is now thought to have high sensitivity and specificity for extra-pulmonary TB as well. Compared to culture, PCR allows for a more rapid diagnosis and greater sensitivity even when small amounts of bacilli are present⁷. In our case too it helped in definitive diagnosis. But despite our sincere efforts we could not ascertain the source of infection as well as the primary lesion in this index case. We could find a similar kind of case reported from north India where an infant was diagnosed with

primary tubercular abscess of thigh at the site of DPT injection. In this case too authors failed to delineate the cause⁸.

Any slowly growing swelling without any signs of inflammation and not responding to usual treatment should raise the possibility of a cold abscess and should be worked up accordingly keeping tuberculosis as a strong possibility in tropical countries like India. Authors also feel that more of these kinds of cases need to be evaluated thoroughly to gain more on its pathogenesis.

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