

Occurrence of Extensive Scrofuloderma in an Immunocompromised Child: A Rare Case Report

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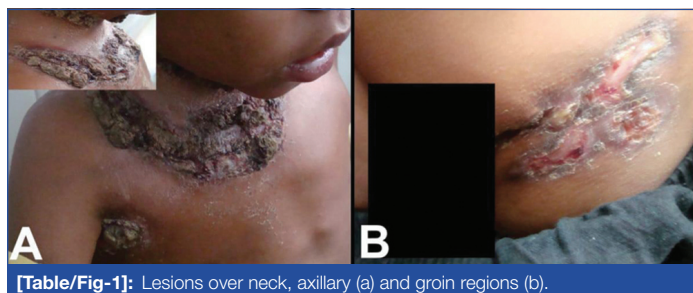
ABSTRACT

Scrofuloderma also called Tuberculosis colliquativa cutis is one of the variants of cutaneous tuberculosis. It can be a skin manifestation of concealed tuberculosis infection. It is most common in countries under development, such as India. It is possible that the individual suffering from Scrofuloderma may not have underlying tuberculosis however, the patient may have come in contact with a tuberculosis patient in the past and due to his/her immunocompromised state the disease manifests. Here, we describe the case of a four-year-old boy presented to the Outpatient Department (OPD) with all the classical sign and symptoms of tuberculosis as low-grade fever, multiple ulcerated nodules at the site of lymph nodes over the neck, axillae, anterior chest wall and inguinal region with history of rupture and extensive crusting. On the basis of presentation and examination the differential diagnosis was made in which Scrofuloderma was first listed. To confirm the diagnosis all the relevant investigations were advised in which Mantoux test, Erythrocyte Sedimentation Rate (ESR) came positive and chest X-ray revealed old resolved tuberculosis. After correlating, clinical findings and laboratory investigations a confirmed diagnosis of scrofuloderma was made and the patient was treated with standard Anti-Tubercular Treatment (ATT). After the completion of standard prescribed period of treatment and specific puckered healing of the ulcerated lesions again confirmed the diagnosis. The aim of reporting is presentation of lesions as superficial bacterial infection and healed old tuberculosis.

Keywords: Cutaneous, Humans, Lymphadenitis, Tuberculosis

CASE REPORT

A four-year-old male patient, presented to the OPD of dermatology with chief complaints of intermittent fever, lesions in the neck, axillary and chest area for one year [Table/Fig-1].



[Table/Fig-1]: Lesions over neck, axillary (a) and groin regions (b).

Patient was apparently alright one year back when he started complaining of intermittent low-grade fever, insidious in onset and non-progressive in nature, multiple lesions over neck, axillae, anterior chest wall and inguinal region associated with history of intermittent rupture, crusting, scarring. The rupture was associated with non foul smelling, seropurulent discharge from the lesions. The patient was examined by several physicians and traditional healers and received a multitude of oral and injectable antibiotics without any relief or healing of the lesions. Details of the injectables and medicine were unknown as parents were unable to provide details. On cutaneous examination the patient had ulcerated lesions with serosanguinous discharge. Patient was previously diagnosed as a case of tuberculosis and was provided with ATT but was unable to complete the treatment and became a defaulter. There was no history of similar complaints in the family. Patient belonged to low socioeconomic background. On basis of clinical examination, the first differential diagnosis was cutaneous tuberculosis that is Scrofuloderma as examination suggested multiple lymph node involvement. Other

differential diagnoses included impetigo, ecthyma and ecthyma gangrenosum.

On further investigation by chest X-ray, an old healed focus of Tuberculosis was seen, ESR was raised (90 mm at one hour). Mantoux test was also positive with 15 mm induration. After correlating of clinical and investigative findings, it was decided that the patient should be given ATT and was referred to Respiratory medicine department for the same and was provided ATT Isoniazid, Rifampicin, Pyrazinamide and Ethambutol under the guidelines of National Tuberculosis Eradication Program (NTEP)- Directly Observed Treatment Short-Course (DOTS) strategy from DOTS center and showed remarkable improvement at one month (after enquiry when patient turned up for follow-up after six months), the lesions resolved completely at the completion of treatment after six months [Table/Fig-2]. Other treatments advised were wet dressing to remove crusting and by application of antibiotic cream (Mupirocin 2%).



[Table/Fig-2]: Resolved lesions after giving ATT.

The present case is rare as there was extensive involvement of multiple lymph node regions and an excellent response to ATT in the prescribed period was noted.

DISCUSSION

In India, tuberculosis is the forerunner among the major health crises. It accounts for 2.2 million reported cases every year [1,2]. Furthermore, in the dermatology OPD cutaneous tuberculosis is seen only in 0.1-0.9% of total patients. The

adolescents (10-14 years of age) are more commonly affected ones [1,3,4]. According to a study done by Shrestha SB et al., Scrofuloderma remains the most prevalent skin manifestation of tuberculosis, which accounts for almost 47% (8/17) of all cases of cutaneous tuberculosis in children [5]. The skin over neck, axillae and groin regions is most commonly involved. On clinical examination, it presents as a solid subcutaneous mass that grows, unites, ulcerates, develops sinuses, and expels necrotic material [1,6]. A cutaneous abscess with an ulcer was observed histopathologically, along with a significant necrotic debris containing many bacilli and scattered histiocytosis with few lymphocytes [1,7]. Scrofuloderma is a type of cutaneous tuberculosis, which develops in people who have some level of immunodeficiency and is brought on by reinfection from an intrinsic focus (usually lymphatic or osseous) [8,9]. Approximately, 1.5% of all extrapulmonary tuberculosis is cutaneous [3]. An 18% to 82% of all cutaneous tuberculosis cases in children are skin tuberculosis. In children there are the two most prevalent clinical manifestations, firstly scrofuloderma and secondly, lupus vulgaris [10]. There is no preference for one gender over another, and the infection is more common in children aged between 10 to 14 years. A highly common intra-family cause of tuberculosis has been noted [3].

Scrofuloderma and lupus vulgaris can feature several lesions and extensive involvement. Children are most frequently affected by scrofuloderma that progresses to gingival lesions (Scrofuloderma gumma). In youngsters, morbidity, and deformities are more persistent [10].

While children acquire infected through domestic contact, adults seem to be more likely to contract the infection outside the house. According to a study, it was found that 69% of children with cutaneous tuberculosis were from close-knit households [11]. The prevalent impairment of the immune response may also lead to defects in mycobacterial-specific cellular responses in children, which are thought to be responsible for the development of both cutaneous tuberculosis and leprosy in some cases. Tuberculosis is more prevalent in low socioeconomic status. In addition, parental carelessness repeatedly leads to missed visits to a dermatologist early in the illness. Delayed medication can cause the disease to spread, disfigured scars that lead to joint contractures and malformations that lead to a bizarre appearance [12].

Geographical environmental pressures, weigh the causation of cutaneous tuberculosis. Cutaneous mycobacterial infection has a distinct clinical appearance that can be acquired in a number of ways, such as external inoculation of the infection and spread to the skin from other areas, or it can be caused by an allergic reaction to the infection [6].

Scrofuloderma is primarily caused by an underlying tuberculosis lesion that spreads through the lymph nodes to the overlying skin [13]. The consumption of raw or non pasteurised milk in non-urban areas can be one of the contributing factors for infection [14].

Despite significant steps being taken to treat tuberculosis, there are serious reports of delays in diagnosing and adequately treating tuberculosis patients in India, which remains a considerable concern [15]. The diagnosis of cutaneous tuberculosis, as in this case, was based on medical history and complete cutaneous examination. Histopathological testing, Lowenstein Jensen media culture or BACTEC 460 TB culture system, and polymerase chain reaction test are used to diagnose cutaneous tuberculosis. Furthermore, Mantoux test positive and a favourable treatment test with antitubercular medications are considered indicators of tuberculosis. An

elaborate clinical approach and extensive investigations to pinpoint systemic disease are recommended, since the latter influences therapy duration. Cutaneous tuberculosis in children is treated in accordance with the guidelines for extrapulmonary tuberculosis treatment [3]. If isolation of bacilli is not possible using newer diagnostic methods, a positive Mantoux test and treatment attempts can be recommended as an aid in diagnosing cutaneous tuberculosis [16].

CONCLUSION(S)

Scrofuloderma is a treatable condition however, it is advised that it should be diagnosed at the earliest and treated accordingly. The main aim of was to let the practitioners know that clinical presentation, Mantoux test positivity and healing of ulcerated lesions with puckering scar are significant findings to diagnose scrofuloderma. In the present case, the patient defaulted on ATT initially and further consulted traditional healers in seeking relief of symptoms because of lack of awareness. The patient was diagnosed clinically and ATT was started at the earliest. After taking the treatment for six months without defaulting the patient showed symptomatic and cosmetic improvement. Hence, early diagnosis and treatment of the patient is encouraged for better prognosis.

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