



Research Article

CUTANEOUS TUBERCULOSIS: A PLETHORA OF PRESENTATIONS: A CASE SERIES

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ABSTRACT

Background: Cutaneous Tuberculosis is a significant Health predicament in most of the developing countries like India. Though relatively uncommon i.e. constituting about 1-1.5% of the total extra Pulmonary tuberculosis cases, it is crucial to distinguish many clinical variants of cutaneous tuberculosis from the other masquerading dermatological conditions.

Aim: To study the epidemiology and the diverse clinical spectrum of Cutaneous tuberculosis.

Methods: All clinically and histopathologically confirmed cases of cutaneous tuberculosis between the period July 2022 and December 2022 at Kurnool Medical College are included in the aforementioned study.

Results: Thirty patients with cutaneous tuberculosis were studied out of which males (56.6%) outnumbered the females. The most common clinical type observed was Lupus vulgaris (56.6%), with lower limb being the most affected site of involvement. The Conclusive evidence of tuberculosis on histopathological examination was reported in 83% of them.

Conclusion: In our study, four different patterns of cutaneous tuberculosis were reported out of which Lupus vulgaris was the most common clinical type. Diagnosis was Primarily based on clinical features and histopathological examination. Our study rubricates the various clinical presentations of cutaneous tuberculosis including the atypical ones, the importance of histopathological examination in diagnosis and excellent response to treatment with anti-tubercular treatment.

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INTRODUCTION

The disease tuberculosis is perhaps as old as mankind, caused by Mycobacterium tuberculosis. It most commonly infects lungs. The number of extra pulmonary tuberculosis cases account up to 14% and the cutaneous tuberculosis accounts for 1-2% among them. Cutaneous tuberculosis can be acquired either exogenously or endogenously and presents as multitude of clinical morphologies. Most common forms of cutaneous tuberculosis are Lupus vulgaris and Scrofuloderma. In India, tuberculosis continues to be the biggest health problem despite the discovery of anti-tubercular therapy and implementation of various national programmes. It is still a burden, probably due to unusual presentations as well as failure to diagnose even typical cases due to lack of clinical experience. The impact of HIV and increased use of immunosuppressants on tuberculosis has gained substantial importance. Our study highlights the importance of correct and early diagnosis of cutaneous tuberculosis, as it can mimic many dermatological conditions and of decreasing the disease morbidity, wide range of variations in morphology and to extol the importance of histopathology in diagnostic dilemma.

AIMS AND OBJECTIVES

To study the epidemiology and the diverse clinical spectrum of Cutaneous tuberculosis.

PATIENTS AND METHODS

The Current study is a prospective observational study and all the patients attending the Dermatology OPD of Kurnool Medical College, Kurnool between July 2022 and December 2022 were thoroughly examined. Ethical clearance was taken from The Ethical committee, Kurnool Medical College. Detailed history and Demographic details were taken and complete physical examination was done in all suspected cases and pertinent investigations like Complete blood count, Erythrocyte sedimentation rate, KOH mount, Mantoux test, Chest X-ray, Biopsy, ELISA for HIV, Smear and culture for AFB were done to confirm the diagnosis.

RESULTS

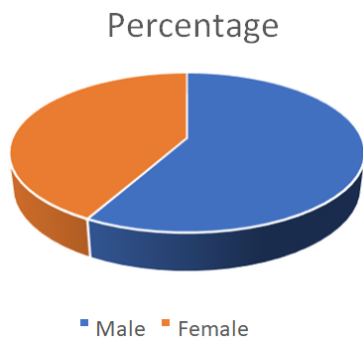
A total of 17402 patients were examined out of which 30 patients had confirmed Cutaneous tuberculosis.

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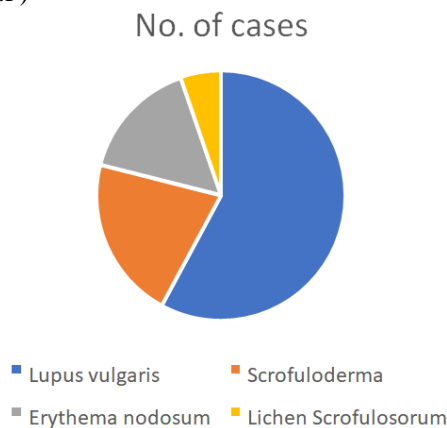
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Age group	No. of cases	Percentage%
1-10	2	6.6
11-20	3	10
21-30	5	16.7
31-40	11	36.7
41-50	5	16.7
51-60	4	13.3

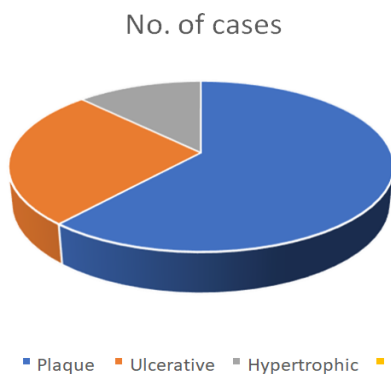
Age of the patients varied from 6 to 60 years. Most of the patients belong to the age group 31-40 years comprising of 36.7% (table 1).



Males (56.6%) outnumbered females (43.4%) with a ratio of 1.31:1 (M:F)



Four morphological variants of cutaneous tuberculosis were observed in our study among which Lupus vulgaris with 17 cases (56.6%), was the most common entity followed by Scrofuloderma with 6 cases (20%) and Erythema nodosum with 5 cases (16.7%). Lichen scrofulosorum with 2 cases was the least observed type in our study (6.7%).



Among the cases of Lupus vulgaris, Plaque variant (11 cases) was most common constituting about 64.7% followed by ulcerative with 29.4% (5 cases) and hypertrophic (1 case) variants with 5.9%. The Most common site of the involvement was Lower limbs.

One patient presented with Sporotrichosis-like linear ulcers on left upper limb along the lymphatics which when subjected to histopathology revealed caseating tuberculous lymphadenitis (figure 3).

Most of the patients had single lesion. No case was found to be in close contact with an open case of Pulmonary tuberculosis. Lymphadenopathy was present in almost all the cases of Scrofuloderma.

Out of the 30 patients, only two had a previous history of Pulmonary tuberculosis (6.7%). None of them had the typical symptoms of Tuberculosis like Fever, weight loss and Diarrhoea.

Smear and culture for AFB showed no bacilli in any case. ELISA for HIV was negative in all cases and no patient has given the history of usage of Corticosteroids or other Immunosuppressants.

Histopathological examination did reveal caseating epithelioid granulomas in 22 cases (73.3%). Secondary changes like acanthosis and hyperkeratosis were observed.

Chest X-ray of one of the patients disclosed the presence of fibrosis in upper lobe of left lung. ESR was raised in all cases. Mantoux test was Positive in 21 cases.



Figure 1a



Figure 1b

Figure 1a showing ulcerative Lupus vulgaris in a female child. Figure 1b showing healing with scarring after 2 months of ATT.



Figure 3



Figure 4

Figure 3 showing tuberculous lymphadenitis mimicking sporotrichosis. Figure 4 demonstrates 'apple jelly' sign.

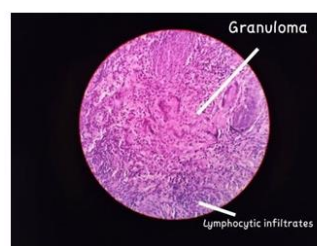


Figure 5



Figure 6

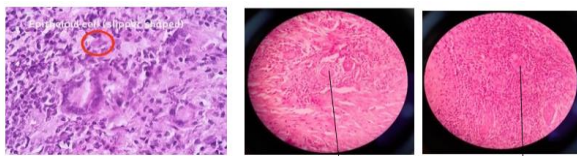


Figure 7

Figure 8

Figure 9

DISCUSSION

In our study, the most common type of cutaneous tuberculosis was Lupus vulgaris (56.6%) similar to the results of the studies by Gurmohan Singh⁴ 74% and Bhushan Kumar *et al*⁵ 81.8%.

Lichen scrofulosorum (6.7%) was the rarest in our study which was also noted as the rarest variety in studies conducted by BV Sathyanarayana¹ and Wong⁶.

Most of the cases were below the age of 40 years correlating with the studies of Sathyanarayana¹ and Wong⁶. Males were comparatively more commonly affected (56.6%) than females (43.4%) similar to the studies^{2,5}. The most common site of involvement in our study was Lower limbs contrary to a study from West⁷ and North India⁵ in which it is Face which is the most common site. Single lesion of a particular type of cutaneous tuberculosis was seen in most of the cases.

Only two cases were associated with Pulmonary tuberculosis in our study, whereas the association was 45% cases in the study by BM Banerjee³ and 10% in the study by Wong⁶.

30% cases showed negative Mantoux test in our study while it was 27.7% in study by Bhushan Kumar *et al*⁵. BCG vaccination scar was found in almost 63% cases and hence reflecting incapability of the vaccine to protect from tuberculosis completely.

All our cases showed no AFB bacilli in our study but Lever⁸ study showed numerous bacilli in cases of Scrofuloderma. Therapeutic response was good in 18 cases with just standard ATT and the lesions were healed with scarring after 2 months of treatment.

The overall prevalence of Cutaneous tuberculosis in various Indian studies is 0.25-0.6%⁹. In India, Scrofuloderma is the most common form of Skin tuberculosis in children and Lupus vulgaris in Adults¹⁰. Standard four drug anti-tuberculosis therapy must be given in histopathologically confirmed cases for a period of six months. A therapeutic trial of triple anti-tuberculosis therapy: Isoniazid, Rifampicin and Pyrazinamide may be considered in cases where the diagnosis is convoluted. A clinical response would be expected within 4-6^{weeks}¹¹

CONCLUSION

The Cutaneous tuberculosis has various clinical manifestations. Some of the cases are uncommon making it difficult to diagnose. Physicians must have high index of suspicion in order to diagnose and treat the condition effectively which otherwise can turn substantially morbid. Since facial lesions of Lupus vulgaris can occur around nose and mouth, it must be considered in the differential diagnosis of ulcerative and mutilating lesions of oro-nasal region. Diligent laboratory and diagnostic testing should be done to determine the etiology, although in the limelight all the investigations confer less sensitivity and specificity. All

patients should be treated with standard anti-tubercular regimen at the earliest for better outcome and in order to avert further complications.

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