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Pattern of Cutaneous Tuberculosis in Rayalaseema Region, AP

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Abstract:
Cutaneous tuberculosis continues to be a significant medical problem even with the advent of highly effective anti-tuberculosis drugs. About 9832 new patients were examined over a period of 18 months and it was revealed that 14 patients (0.14%) had cutaneous tuberculosis. Most of the tuberculosis patients (57.1%) were between the ages of 21 to 40 years. Lupus vulgaris was the commonest variant (35.71%), followed by Tuberculosis verrucose cutis (21.04%). Males suffered more than females (1.8:1) and all patients belonged to lower socio-economic class. 9 cases (64.28%) showed evidence of BCG vaccination that failed to protect cutaneous tuberculosis. Mantoux test was positive in 78.57% of cases. Bacteriological examination was negative in all cases. Response to antitubercular therapy was very good in all cases.

Key words: *Cutaneous tuberculosis, Mantoux test, BCG vaccination, lupus Vulgaris*

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I. Introduction

In India tuberculosis continues to be the biggest public health problem and cutaneous tuberculosis remains a common diagnosis at the Dermatology OPD [1]. Mycobacterium, the organism responsible was identified about 100 years ago; vaccine and chemotherapy are available for over 50 years. Despite the availability of effective diagnostic tools and treatment, the number of new cases of tuberculosis is rising again. With the improvement of living conditions and the introduction of effective treatment, the numbers of reported cases of tuberculosis have declined. The invasion of the skin by Mycobacterium tuberculosis has become rare in developed countries but is seen in developing countries. About 1/3rd of the world's population has latent M. Tuberculosis infection. And 5-10 % of those having latent infections develop symptomatic infection, but the risk of developing the clinical manifestations of the disease is greatly increased by HIV co-infection [2]. Most patients with cutaneous infections caused by nontuberculous mycobacteria have significant underlying disease, there is a relative lack of classic histologic features in patients with cutaneous mycobacteriosis, and there appear to be diverse forms of clinical presentation [3]. Early studies from India concluded that the incidence of cutaneous tuberculosis has fallen from 2% to 0.15%. Diagnosis of cutaneous TB is challenging as its manifestations are varied, typical dermatologic lesions are rare, and the bacterium is seldom identified by staining or culture [4].

II. Materials and Methods

This was a retrospective data analysis where patients' attending to Dermatology and STD OPD of RDT Hospital Bathalaplli, period 18 months duration from Feb. 2014 to august 2015 was analyzed. The detailed history regarding age, sex, occupation, education, marital status and socioeconomic class was analyzed. Data regarding general and systemic examinations in addition to dermatological examination for evidence of tuberculosis elsewhere in the body was taken. Reports of smear from the affected area and sputum for acid-fast bacilli, CBNAAT, chest X-Ray, routine heamogram with ESR, Mantoux test, and histopathological examination were retrieved.

III. Results

A total of 9832 patients were examined and only 14 patients (0.16%), comprising 9males and 5 females (ratio 1.8:1), had cutaneous tuberculosis. Age of the patients varied from 10 to 40 years and the most common age groups were 21 to 40 and 16-25 years. Only six morphological variants of cutaneous tuberculosis were seen of which lupus vulgaris (LV) was the commonest (35.71%), followed by Tuberculosis verrucose cutis (21.04%).

Tables

Table 1: Age distribution of various forms of skin tuberculosis

Age	LV	TV	SFD	Nodular vasculitis	PNT	Lichen scrofulosorum	total
10-20	2	1	2	-	-	1	6
21-40	3	2	-	1	2	-	8

Table 2: Sex distribution and types of skin tuberculosis

Sex	LV	TV	SFD	Nodular vasculitis	PNT	Lichen scrofulosoruum	Total
Males	5	3	-	1	-	-	9
females	-	-	2	-	2	1	5

Table 3: Duration of different type of skin tuberculosis in years

Duration	LV	TV	SFD	Nodular vasculitis	PNT	Lichen scrofulosorum
<1year	-	1	-	-	-	1
1-2 year	3	2	1	-	-	-
2-5year	2	-	1	1	2	-

Table 4: Results of Mantoux test

	LV	TV	SFD	Nodular vasculitis	PNT	Lichen scrofulosoruum
<10mm	1	1	-	-	-	-
10-15mm	2	1	2	-	2	1
>15mm	2	1	-	1	-	-

Figures

Fig 1: Lupus Vulgaris

Fig 2: Lupus Vulgaris

Fig 3: Lupus Vulgaris

Fig 4: Tuberculosis verucossa cutis

Fig 5: Scrofuloderma

Fig 6: Papulo necrotic tuberculid

V. Discussion

The prevalence of cutaneous tuberculosis was 0.26% which was similar to findings in other studies like 0.24% by Satyanarayana. The commonest type of cutaneous tuberculosis was lupus vulgaris in our study (57.69%) which was also noticed by Gur Mohan singh (74%). Tuberculide (lichen scrofulosorum) was rarest in our study (1.92%). It was also noticed to be negligible by Gur Mohan Singh and BV Satyanarayana. Most of the cases were below the age of 40 years in our study, corroborating Satyanarayan and Wong [7]. Males outnumbered the females in a ratio of 1.8:1 as in other studies. Duration of the disease was variable. More than 5 years, duration was noticed in 30% cases by Pandhi et al while the same was 17.3% in our study. HIV seropositivity was not seen in any case. In all other cases it was normal. A profile of cutaneous tuberculosis BCG vaccination scar of was found in 64.28%% cases which reflected the incapability of the vaccine to protect tuberculosis completely [8].

VI. Conclusion

The incidence of cutaneous tuberculosis in the present study done at RDT hospital, a secondary care center in Rayalaseema region was found to be 0.14% which is far lower as compared to previous reports of 0.28% and 0.59%. This study also depicts histopathology well correlated with clinical findings except 2 cases where therapeutic response confirmed the diagnosis. Therapeutic response was good in all the cases, Responses to therapy started after 1st month of therapy in most of cases and lesions were healed with scarring 2-3 months before the completion of therapy.

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