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PREVALENCE, DIAGNOSIS AND MANAGEMENT OF CUTANEOUS TUBERCULOSIS IN PAEDIATRICS

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ABSTRACT

Cutaneous tuberculosis is one of the most delicate and intricate diagnoses for dermatologists practicing in India. Childhood cutaneous TB has a prevalence rate among all forms of TB ranges from 18.7% to 53.7% in India. The aim of the present study Prevalence, diagnosis and management of cutaneous tuberculosis in pediatrics. Thirty children (<15 years) with tuberculosis were included after taking consent from parents or the medico legal guardians In the present study, thirty children with cutaneous tuberculosis were analysed to explore the clinical pattern of Cutaneous TB. Out of them maximum 33.3% patients were within 11-13 years age followed by 6-10 years 30% ,>15 years 16.6% and least 1-5 years 20%. The mean age of the patients was 10.36 years. The boy is to girl ratio was found to be 7:3.3.Scrofuloderma is the most common type of skin TB in children followed by lupus vulgaris and tuberculosis verrucosa cutis (TVC). Early on diagnosis based on strong clinical suspicion will help initiate early diagnosis and successful treatment.

Keywords:- Cutaneous Tuberculosis, extra pulmonary tuberculosis, Scrofuloderma, lupus vulgaris and tuberculosis verrucosa

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INTRODUCTION

Tuberculosis continues to be a major public health problem worldwide due to adverse social conditions and development of multi drug resistant strains of Mycobacterium tuberculosis. Cutaneous TB, as like its systemic forms have a variable clinical appearance, significance and prognosis. Childhood cutaneous TB has a prevalence rate among all forms of TB ranges from 18.7% to 53.7% in India. [1]The clinical appearance of different types of Cutaneous TB varies and determined by factors such as route of infection and cellular immune status of the host. [2]

Cutaneous TB diagnosed derived from strong clinical suspicion, family history of extrapulmonary TB, a positive Mantoux test and typical histopathological features. [3] Cutaneous TB may remain localized to the skin alone, but frequently involves regional lymph nodesDisease is taken into consideration to be disseminated if there may be presence of generalized lymphadenopathy and/or involvement of different organ systems. Compared to adults, children have a higher incidence of tuberculous lymphadenitis, seen in up to 29.2% of the cases. [4] Children are also more likely to have underlying systemic involvement compared to adults. The current study was aimed to Prevalence, diagnosis and management of cutaneous tuberculosis in pediatrics.

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MATERIAL AND METHODS

This cross sectional observational study was conducted in Sri Lakshmi Narayana Institute of Medical sciences, Pondicherry from January to December 2015. Thirty children (<15 years) with tuberculosis were included after taking consent from parents or the medico legal guardians. [5] A detailed history including present and past history of tuberculosis and BCG immunization status were taken and a thorough physical examination was done. Complete blood count (CBC), erythrocyte sedimentation rate (ESR), mantoux test, X-ray of chest and other regions, ultrasound of the abdomen and biopsy of the lesion were done. The mantoux test was performed using 1 tuberculin unit (0.02 mg of purified protein derivative) and read at 72 hours. [6] Induration of more than 10 mm was taken as suggestive of infection with *mycobacterium tuberculosis* in nonvaccinated patients and 15 mm and above was in vaccinated patients. Participants whose parents are not willing to give consent for the study, Patient with MDR-TB and XDR-TB and Children less than 1year Children with HIV infection were excluded in this study.

RESULTS

In the present study, thirty children with cutaneous tuberculosis were analysed to explore the clinical pattern of Cutaneous TB. Out of them maximum 33.3% patients were within 11-13 years age followed by 6-10 years 30% ,>15 years 16.6% and least 1-5 years 20%.The mean age of the patients was 10.36 years. The boys is to girls ratio was found to be 7:3.3.

Commonest type of Cutaneous TB in the study population was scrofuloderma (43.3%), followed by lupus vulgaris (37%), and tuberculosis verrucosa cutis (20%). Lower limb involvement was commonest followed by involvement of neck in present study. [7]

Greater part of the patient presented with single lesion 21(70%) and the rest (30%) had involvement of multiple sites. All of the patients were from poor social strata. Lymph node involvement was seen in all 25 cases of scrofuloderma (83.3%) cases. Histopathology was consistent with cutaneous tuberculosis in all of the cases. Mantoux test was positive in 10(33.3%) of the cases. BCG vaccination was done in 11(37%) of the cases. 5cases had positive family history of TB. One patient involves the systemic involvement of other organs.[8]

Table 1: Demographic Variable (N=30).

Variables	Frequency	Percentage
Age		
Up to 5	6	20%
6-10	9	30%
11-14	10	33.3%
>15	5	16.6%
Sex		
Boys	21	70%
Girls	9	30%
Socioeconomic status		
Poor	26	86.6%
Middle	4	13.3%

Table 2: Cutaneous TB; Types and sites of presentation

Cutaneous TB type	Site	Number of cases	Total cases
Scrofuloderma	Neck Axillae	7 6	13(43.3%)
Lupus Vulgaris	Lower limb Upper limb	5 6	11(36.6%)
TBVC	Lower limb	6	6(20%)

DISCUSSION

In present study 30 patients were included. The male to female ratio was found to be 7:3.3 and the high prevalence of infection in male is correlated with Muley P et al study [9] M:F ratio was 1.53:1. This is may be due to male child are more circuitriding and also more attention paid to male child in developing country. [10] study where 46.7% patient were in age group 11-15 years. which is similar to our study the majority of the cases belong to the age group 11 to 13 years (33.3%).

Our study showed that most common cutaneous TB was scrofuloderma (43.3%), followed by lupus vulgaris (30%), and tuberculosis verrucosa cutis (20%) which is correlated, [7] study because scrofuloderma is the direct extension from an original tubercular focus, most frequently tubercular lymphadenitis/skeletal

tuberculosis into the skin. They clinically provides as ulcerated lesions in the neck with discharging 'tacky' material. [11] Sethuraman G [8] study showed results lupus vulgaris the second most regular cutaneous TB in children similar within present study.

The majority site of Cutaneous tuberculosis was lower limb in our study this was also seen in study done by Panda M et al. Present study showed that most of the patients 86.6% were from low socio-economic condition in our study this is correlated with Manesha Singh et al(100%). A positive family history of tuberculosis was related in 5 of the cases (17%) in current study as similar to study Sultana A, et al. where it was13.64%.

CONCLUSION

Cutaneous TB has different clinical presentations and normally occurs as a result of direct inoculation into skin or sometimes caused by essential focus of infection. Scrofuloderma is the most common type of skin TB in children followed by lupus vulgaris and tuberculosis verrucosa cutis (TVC). Early on diagnosis based on strong clinical suspicion will help initiate early diagnosis and successful treatment.

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