Research Article

Tuberculous lymphadenitis: Incidence in children of rural area

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Abstract

Introduction: Tuberculosis is India's biggest public health problem, it has been estimated that nearly 500,000 People die of this disease every year. Vast majority of cases are found in rural and semi urban areas, where more than 80 % of the Country's population lives. **Amis and Objectives:** To study the incidence of tuberculous lymphadenitis in children diagnosed at rural medical college. **Material and Method:** The present study was conducted in the S.R.T.R. Medical College Ambajogi. All the cases less than 12 years of age diagnosed as tuberculosis were enrolled in the study. Total 417 cases of tuberculosis were diagnosed in the study in one year. Then the cases were divided in to pulmonary and extra pulmonary tuberculosis. Out of total extra pulmonary TB cases, 50 cases of tuberculous lymphadenitis were diagnosed. The cases were diagnosed by Fine Needle Aspiration Cytology or Histopathology. The clinical record of each case was studied which included age, sex, nutritional status, family history of contact with tubercular patient, status of BCG vaccination. Mantoux test was done in aal the children. Details clinical examination was done in all children including lymph nodes involved. X-ray chest and abdominal USG was also performed in all children. The findings were entered in the Microsoft excel and presented using appropriate tables and graphs. **Results:** The incidence of tuberculous lymphadenitis was 11.99%. The maximum number of patients (44%) was in the age group 7-9 years. The male to female ratio is 1.17:1. Definite family history of pulmonary TB was seen in 30% cases whereas 64% cases had received BCG Vaccination. Multiple, matted enlarged Cervical nodes is the common presenting complaints. **Conclusion:** The incidence of tubercular lymphadenitis was 11.99% out of total case of tuberculosis diagnosed in the study with predominantly cervical lymph node involvement. Tubercular lymphadenitis can occur in BCG vaccinated as well as well without any contact source in the family.

Keywords: Tubercular lymphadenitis, incidence, cervical lymph node.

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INTRODUCTION

Tuberculosis is India's biggest public health problem, it has been estimated that nearly 500,000 People die of this disease every year. Vast majority of cases are found in rural and semi urban areas, where more than 80 % of the Country's population lives.[1] Despite the fact that the causative organism of tuberculosis was discovered 100 yrs ago and efficacious chemotherapy has been introduced since last 40 yrs, the epidemiological situation, viewed worldwide is not reassuring. There are more now cases (8 Million) per annum than ever and about 3 million people die from the disease each year.[2] Today the entire world is facing a very frightening threat – resurgence of this age old disease. It seems to have become ever more deadly after forming an alliance with newer diseases like AIDS. It indirectly reflects the level of economic well being in a society. Higher prevalence of the disease is inversely related to the stages of economic growth. About a century ago Sir William Osler defined Tuberculosis as "a Social malady with a medical facet".[3] Tuberculosis is still a major health hazard in children in India[4]. In India 4% of the children by the age of 6 yrs and 80% by the age of 16 yrs are labeled as infected. A child in close contact with tuberculosis adult is at greated risk if he also has one of the communicable diseases like measles of whooping cough. It is well documented that children having primary

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infection are likely to go into progressive severe disease, even BCG vaccinated children age tuberculosis disease when the source of infection is an infectious adult, especially at home. Lymphadenitis is the most common form of extra pulmonary tuberculosis. With progression they become harder and matted. Chronic draining fistulas may develop, these are rare and course of this form of tuberculosis is usually indolent. The diagnosis is commonly established by surgical biopsy of FNAC. Biopsy specimens obtained for this purpose should always be submitted for culture as well as histological examination and chemotherapy should be instituted at of before the timing of surgery to avoid post operative fistulas in the surgical wound sit.[5]

AMIS AND OBJECTIVES

To study the incidence of tuberculous lymphadenitis in children diagnosed at rural medical college.

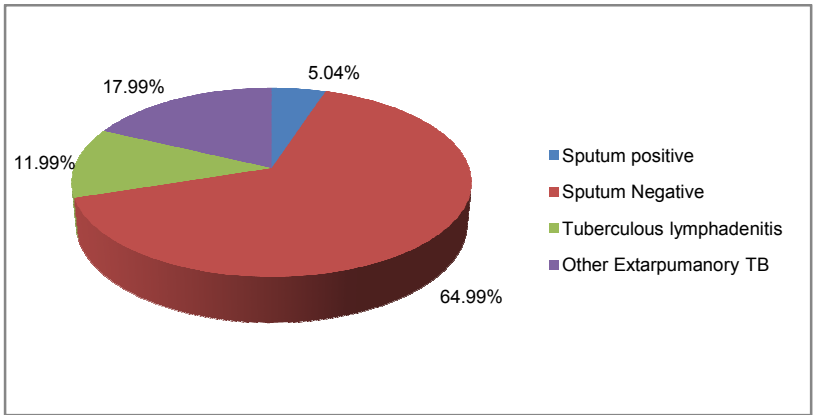
MATERIAL AND METHOD

The present study was conducted in the S.R.T.R. Medical College Ambajogai with the objective to study the incidence of tuberculous lymphadenitis in children. All the cases less than 12 years of age diagnosed as tuberculosis were enrolled in the study. Total 417 cases of tuberculosis were diagnosed in the study in one year. Then the cases were divided in to pulmonary and extra pulmonary tuberculosis. Out of total extra pulmonary TB cases, 50 cases of tuberculous lymphadenitis were diagnosed. The cases were diagnosed by Fine Needle Aspiration Cytology or Histopathology. The clinical record of each case was studied which included age, sex, nutritional status, family history of contact with tubercular patient, status of BCG vaccination. Mantoux test was done in all the children. Details clinical examination was done in all children including lymph nodes involved. X-ray chest and abdominal USG was also performed in all children. The montoux test was considered positive when the indurations were 10 mm or more after 48 hrs of intradermal "injection of 1 TU of purified protein derivative (PPD –RT 23 of BCG vaccine laboratory, Madras). The findings were entered in the Microsoft excel and presented using appropriate tables and graphs.

RESULTS

Table 1: Incidence of tuberculous lymphadenitis

Type of TB	No. of patients	Percentage
Sputum positive	21	5.04%
Sputum Negative	271	64.99%
Extarpumanory TB	125	29.98%
Tuberculous lymphadenitis	50	11.99%
Other	75	17.99%
Total	**417**	**100.00%**



In the present study total 417 cases of childhood TB were diagnosed newly in the study duration. Majority of them were sputum negative pulmonary TB. Extarpumanory TB was diagnosed in 29.98% cases. The incidence of Tuberculous lymphadenitis was 11.99%.

Table 2: Distribution of cases according to various characteristics

		No. of patients	Percentage
Age Group in Years	0-3	9	18%
	4-6	10	20%
	7-9	22	44%
	10-12	9	18%
Sex	Male	27	54%
	Female	23	46%
Family History of Tuberculosis	Definite	15	30%
	Doubtful	4	8%
	No. History	31	62%
BCG Vaccine	Given	32	64%
	Not given	18	36%

The maximum number of patients 22 (44%) were in the age group 7-9 years amongst the remaining 10 (20%) cases were between 3-6 years of age, 9 (18%) cases each in age group 0-3 years and 10-12 years. It was observed that out of 50 cases 27 (54%) cases were males and 23(46%) were females. And the male to female ratio is 1.17: 1. Definite family history of pulmonary TB was seen in 30% cases. In 4 cases there was doubtful history of TB, in form of disease to cousins and neighborhoods. In 62% cases no family history of TB was established. It was observed that 64% cases had received BCG Vaccination for protection against tuberculosis and developed tuberculous lymphadenitis, while 36% cases patient did not received BCG Vaccination.

Table 3: Distribution according to lymph node involvement

		No. of patients	Percentage
Location	Cervical	36	72%
	Axillary	4	8%
	Inguinal	3	7%
	Multiple	7	14%
Number of Nodes	Single	16	32%
	Two	8	16%
	Multiple	26	52%
Consistency	Firm	48	96%
	Hard	1	2%
	Soft	1	2%

It was evident that cervical lymph nodes were involved in 72% cases. In 8% cases axillary group of lymph nodes were involved and in 6% case inguinal lymph nodes were involved whereas in 14% cases multiple groups of lymph nodes were involved. It was observed that maximum no. of cases having cervical lymph nodes were in posterior triangle of neck i.e. 22 (46%) of total cases. It was observed that in 52% cases multiple nodes were involved, while in 32% cases only one node was involved and in 16% cases two nodes were involved. Lymph nodes involved were firm in consistency in 96% cases while in only 2% cases the consistency was hard.

DISCUSSION

The present study was conducted in the SRTR medical college, Ambajogai, to study the incidence of tuberculous lymphadenitis in the children. Thus in the present study total 417 cases of childhood TB were diagnosed newly in the study duration. Majority of them were sputum negative pulmonary TB (64.99%). Extarpumanory TB was diagnosed in 29.98% cases. The incidence of tuberculous lymphadenitis was 11.99%. Similar findings were also reported by Harries AD *et al* in their study.[6] The majority of patients (44%) were in the age group 7-9 years whereas as the remaining 20% cases were between 3-6 years of age, 18% cases each in age group 0-3 years and 10-12 years. This observation was contrary to the observation by Agrons G.A. *et al*[7] who observed distribution of children suffering from pulmonary tuberculosis showed clustering of below 5 years and above 14 years of age. It was observed that out of 50 cases 27 (54%) cases were males and 23 (46%) were females. And the male to female ratio is 1.17: 1. Thus in our study there was male preponderance which was consistent with the results of other studies.[3] Possibly the lymph node infection occurs as part of primary bacillemia in younger age from the case of tuberculosis surrounding them mostly from family members. The infection may remain quiescent and under unfavorable conditions may cultivate and manifest clinically at later age. The definite family history of pulmonary TB was seen in 30% cases.

In 4 (8%) cases there was doubtful history of TB, in form of disease to cousins and neighborhoods. Similar findings were also observed by Talmi Y.P. *et al*[8], Seth V. *et al*[9] and Schuit K.E. *et al*[10]. It was observed that 64% cases had received BCG Vaccination for protection against tuberculosis and developed tuberculous lymphadenitis, while 36% cases patient did not received BCG Vaccination. Thus in our study nearly 2/3rd cases of tubercular lymphadenitis had revived BCG vaccination, which was more than other studies on pulmonary tubercuylosis.[9] BCG vaccination is one of the important strategies to reduce the serious complications of childhood tuberculosis. It does not prevent the lodgment of tubercle Bacilli and the subsequent development of natural infection at the bit of portal of entry. Nevertheless, its importance underlies the fact that it limits the dissemination of tubercle bacilli there by localizing the establishment of lesion[11]. It was evident that cervical lymph nodes were involved in 72% cases. In 8% cases axillary group of lymph nodes were involved and in 6% case inguinal lymph nodes were involved whereas in 14% cases multiple groups of lymph nodes were involved. Similar findings were also reported by Dandapat M.C. *et al*[12] and Lan S.K. *et al*[13] in their study. It was observed that maximum no. of cases having cervical lymph nodes were in posterior triangle of neck i.e. 22 (46%) of total cases. In 52% cases multiple nodes were involved, while in 32% cases only one node was involved and in 16% cases two nodes were involved. Lymph nodes involved were firm in consistency in 96% cases while in only 2% cases the consistency was hard. Domb and Chole[14] and Dietal and Seldanha[15] have suggested a typical pattern of involved nodes in tubercular lymphadenitis as multiple, malted bilateral and usually posterior adenopathy.

CONCLUSION

Thus the incidence of tubercular lymphadenitis was 11.99% out of total case of tuberculosis diagnosed in the study with predominantly cervical lymph node involvement. Tubercular lymphadenitis can occur in BCG vaccinated as well as well without any contact source in the family.

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