

TUBERCULOUS LYMPHADENITIS IN SINGAPORE

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SYNOPSIS

Besides tuberculous pleurisy, tuberculosis of the lymph nodes is the commonest form of extrapulmonary tuberculosis, consisting of about 50% of all forms of extrapulmonary tuberculosis notified.

There is a predominance of the disease in females and it also occurs more commonly in the younger age groups in contrast to the pulmonary disease which is primarily seen in the elderly male. Only a quarter of the cases were confirmed bacteriologically. There is a need for surgeons to send lymph node biopsy material routinely for culture for tubercle bacilli.

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INTRODUCTION

Next to tuberculous pleurisy, tuberculosis of the lymphatic system is the commonest of all extra-pulmonary tuberculosis. Its involvement of the cervical lymph nodes has been known for centuries as scrofula or the King's Evil. Diagnosis of extra-pulmonary tuberculosis is not so clear-cut because material for confirmatory test is not easily obtainable. Invasive procedures are not always acceptable to patients. The purpose of this paper is to present the epidemiology and diagnostic criteria of tuberculous lymphadenitis.

METHOD

Notification records kept by the Department of Tuberculosis Control form the basis of the material used in this paper. To verify the diagnostic criteria, clinical records of the patients were scrutinised over the three-year period from 1983 to 1985. Where confirmation of bacteriological results was needed, the Central Tuberculosis Laboratory provided the information.

RESULTS

Epidemiology

Notifications of extrapulmonary tuberculosis (XPTB) over the past 12 years have consistently remained at an average of 9% of all newly notified tuberculosis (Table 1). Among the XPTB notified, about 50% are tuberculosis of the lymphatic system, making it the most common form of XPTB. Practically all of these are tuberculosis of the cervical lymph nodes. Tuberculosis of the hilar and mesenteric lymph nodes occurs only rarely. From 1983 to 1985, there were only four cases of tuberculosis involving the mediastinal hilar glands and three involving the mesenteric glands notified to the Tuberculosis Registry.

The unusual features of TB lymphadenitis are its sex and

Table 1

TUBERCULOSIS NOTIFICATIONS

YEAR	TB ALL FORMS	EXTRA-PTB		TB LYMPH SYSTEM	
		No.	%	No.	%
1974	3451	276	9	108	39
1975	3097	210	7	79	37
1976	2813	246	9	81	33
1977	2760	208	8	100	48
1978	2964	294	10	137	47
1979	2800	238	9	113	48
1980	2710	209	8	114	55
1981	2425	214	9	117	55
1982	2179	229	9	114	50
1983	2065	218	11	121	56
1984	2143	224	10	127	57
1985	1952	188	10	100	53

age distribution. There is a predominance of the disease in females (Fig. 1). Average figures from 1978 to 1985 show that for every male with TB lymphadenitis there were 1.7 females with the disease. This is in contrast to pulmonary tuberculosis which is primarily seen in the males in the ratio of 2.5 males to 1 female (1).

The other striking characteristic of TB lymphadenitis is that it occurs more commonly in the younger age groups (Fig. 2). Taking 45 years as the cut-off point, there were more than 5 times as many cases of TB lymphadenitis in those under 45 years as those 45 years and above. In pulmonary tuberculosis, however, there were about 1.5 times more cases in those aged 45 and above than in those below 45 years old (1).

Diagnostic Criteria

Most cases of TB lymphadenitis are diagnosed on clinical grounds and/or histological appearance of biopsy tissue. A 3-year survey of TB lymphadenitis notified between 1983 and 1985 showed that, on an average, 38% of the cases were diagnosed on the histological appearance of biopsy material, 29% on clinical grounds alone and 9% on the basis that the patient had concurrent bacillary pulmonary tuberculosis. Only

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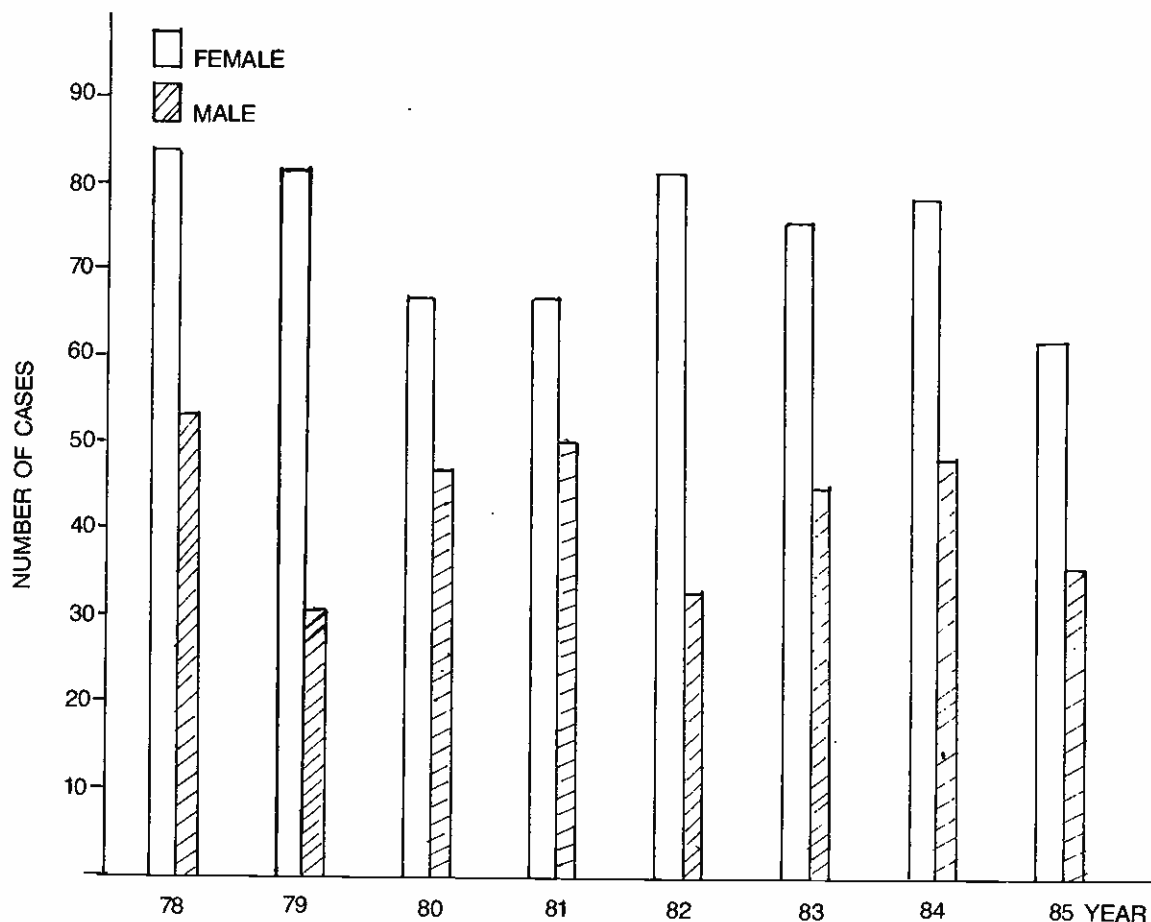


Fig. 1 – SEX DISTRIBUTION OF TB LYMPHADENITIS
1978 – 1985

Table 2

DIAGNOSTIC CRITERIA FOR TB LYMPHADENITIS –
1983 TO 1985

Year	83	84	85	3-yr Ave.	Ave. %
Clinical only	34	40	27	33.7	29
Histology of biopsy material only	50	44	38	44.0	38
Positive bacteriology from biopsy material	26	28	30	28.0	24
Bacteriologically positive PTB with lymph- adenopathy	11	15	5	10.3	9
Total	121	127	100	116.0	100%

about a quarter of the cases (24%) were confirmed bacteriologically (Table 2).

DISCUSSION

Tuberculosis of the lymphatic system is largely confined to the cervical lymph nodes. TB of the mediastinal hilar glands is hardly seen because our wide coverage of BCG vaccination among infants has virtually wiped out primary TB in the young. TB of the intestines and the mesenteric glands which used to be very common in many countries as a result of bovine infection is now rarely seen because of strict disease control in herds and the pastureization of milk.

The involvement of cervical lymph nodes in tuberculosis could be the result of the tonsils and adenoids providing an easy portal of entry for inhaled mycobacteria (2). However, it could also result from lymphatic spread or by haematogenous dissemination from an original focus in the lung (3). (About 30% of reported lymphatic tuberculosis have concomitant pulmonary lesions). Others (4) suggest that tuberculous cervical lymphadenitis is the lymph node component of a primary complex of the oral cavity where such structures as gums, tongue and buccal mucosa can be infected and subsequently healed without being detected.

The predominance of TB adenitis in the younger age

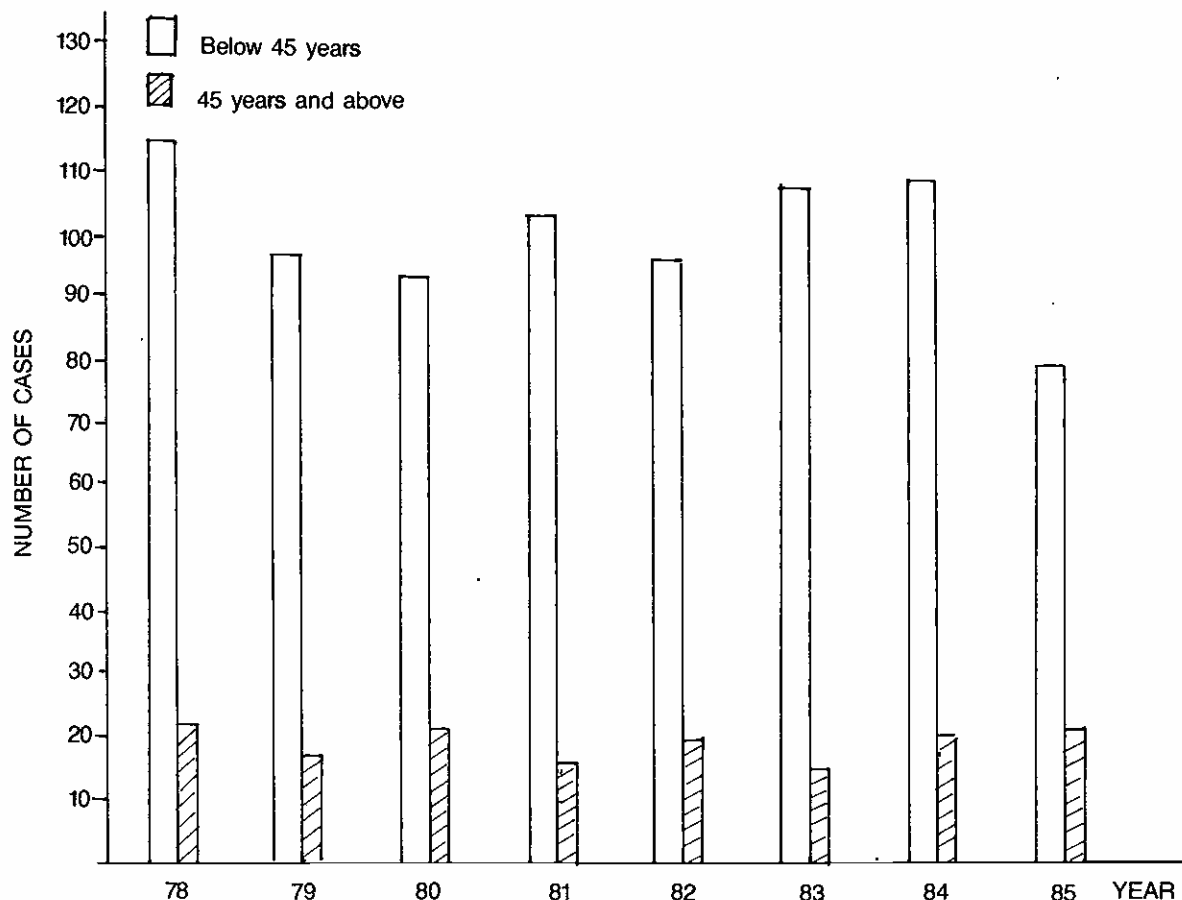


Fig. 2 — DISTRIBUTION OF TB LYMPHADENITIS IN TWO BROAD AGE GROUPS 1978 — 1985

groups and in females has been well documented by various authors (5) (6). The reason for this is not clearly understood. The classic paper by Wallgren (7) postulated that the different manifestations of tuberculosis depend on the infected person's age, his resistance and, more importantly, the age of the tuberculous infection. Primary tuberculosis and haematogenous spread occurs soon after infection in young people. However, the reason why TB lymphadenitis should be more common in females is not clearly understood.

The high percentage of bacteriologically unconfirmed cases raises the question of the accuracy of diagnosis. Histological appearance similar to TB granulomatous changes can occur in fungal and other non-infectious conditions. The diagnosis of tuberculosis is assumed because the disease is still quite prevalent in Singapore. Atypical mycobacteria have also been incriminated in producing enlarged cervical lymph nodes (8) (9). A simple confirmatory test for TB lymphadenitis very often forgotten is to send the biopsy material for culture. Since tuberculous lymphadenitis

is still quite common in Singapore, surgeons who do biopsy on lymph nodes, especially in young adults, should routinely send specimens for culture of tubercle bacilli. It is encouraging to note that the Central Tuberculosis Laboratory has been receiving increasing number of lymph node material for culture, from 35 specimens in 1983 to 114 in 1985 (10).

Treatment for tuberculous lymphadenitis is essentially the same as for pulmonary tuberculosis, though the duration should as a rule be at least 1½ years. This is because the bacilli in the lymphatic tissue where the oxygen tension is low are usually the slow metabolising organisms or persisters. Rifampicin—containing short course regimen has been found to be effective if given for 9 months (11). The affected lymph nodes usually regress with treatment. With the advent of modern effective anti-tuberculous drugs, suppuring tuberculous lymphadenitis can be safely drained without the fear of developing chronic discharging sinuses.

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