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Original Article

HISTOPATHALOGICAL PATTERN OF LYMPH NODE BIOPSIES TAKEN IN THREE TEACHING HOSPITALS OF BANNU (KPK)

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ABSTRACT

OBJECTIVE: To determine the histopathological pattern of lymph node biopsies taken in three teaching hospitals of Bannu.

METHOLOGY: This was a prospective observational study of patients, presenting to the departments of pulmonology and ENT in Khalifa Gul Nawaz Teaching Hospital, District Head Quarter Teaching Hospital and Women and Children Teaching Hospital of Bannu from 1st April 2011 to 31st December 2011.Seventy five patients with enlarged neck lymph nodes fulfilling the required criteria were included in the study. After detailed history and clinical evaluation, lymph nodes biopsies were obtained and sent for histopathological examination. The results obtained were analyzed for frequencies and percentages using SPSS version 16.

RESULTS: A total of 75 patients were included in the study. The mean age was 35 years + std.dev of 13.5.The male to female ratio was 1.2**:**1. Histopathological examination showed 39% Tuberculous, 33% reactive hyperplasia, 19% Lymphomas, 6% metastatic nodes and Toxoplasmosis, Infectious mononucleosis and sarcoidosis 1.3% each. Most patients with metastatic nodes were above 50 years. In tuberculous lymph nodes mostly patients were between 20 and 30 years.

CONCLUSION: The important causes of lymphadenopathy in our setting are tuberculosis, reactive hyperplasia, lymphomas and metastatic malignancies, needing tissue diagnosis as early as possible for the prompt treatment.

KEY WORDS: histopathological, lymph node, biopsies, tuberculosis

INTRODUCTION:

Enlarged lymph node is a common clinical problem and its differential diagnosis is extensive, with causes ranging from inflammatory to malignant. It cannot be diagnosed easily on clinical grounds or by routine laboratory investigations alone. A series of investigations may be required to reach a definitive diagnosis, but in some cases even after clinical evaluation and investigations, definite diagnosis cannot be made. Fine needle aspiration cytology (FNAC) is capable of rendering a histopathological diagnosis but requires expertise that is not available in a remote setting like ours.

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Moreover clinicians are reluctant to accept cytological diagnosis. Final diagnosis is based on tissue biopsy which is considered to be the gold standard for the diagnosis of many diseases including malignancies[1]. In a study in Saudi Arabia it was found that among the 1200 lymph node biopsies primary and metastatic malignancies were 42% and tuberculosis was 28%, while 30% were only reactive hyperplasia[2]. Sharma SK and colleagues showed lymph node involvement in more than 20% of tuberculosis patients especially in the neck area and even more in HIV positive patients in India. Biopsy and/or surgery are required to produce tissue samples for the diagnosis and for managing complications[3]. In a similar study in Nepal, Tiwari M and his colleagues found that tuberculosis was the commonest cause of lymph node enlargement followed by metastatic lesions and non specific causes[4]. In a Nigerian study of 733 samples of lymph node biopsies chronic granulomatous lesions were 14.93%, lymphomas 16.85%, reactive hyperplasia 31.37%, and metastatic lesions 36.50%[5].
The study aims to find out the causes of enlarged neck lymph nodes in our local population especially in a very remote southern district (Bannu) of Khyber Pakhtunkhwa and to compare our results with the national and international studies.

METHODOLOGY: This was a prospective observational study of patients, presented to ENT OPD, Chest OPD or referred from other OPDs or wards with enlarged neck lymph nodes in Khalifa Gul Nawaz Teaching Hospital, District Head Quarter Teaching Hospital and Women and Children Teaching Hospital Bannu from 1st April 2011 to 31st December 2011. After obtaining informed consent, patients were evaluated in detail. Patients belonging to both sexes and all ages with single or multiple cervical lymphadenopathies with the suspicion of tuberculosis were included in the study. Patients with history of less than four weeks lymph node enlargement and/or having acute inflammatory process in the draining area or not willing for biopsy or having enlarged nodes in association with a known primary malignancy in the head and neck region were excluded. Biopsies were taken under local anesthesia in adults and general anesthesia in children. Tissues embedded in formalin were sent to the histopathologist. The results obtained were documented and analyzed for frequencies and percentages using SPSS version 16.

RESULTS:A total of 75 patients were biopsied with 55% males and 45% females and a male to female ratio of 1.2:1(fig 01).The age range was 05 - 68 years with a mean age of 35 years and a std dev of +13.5 years.(fig 02). The study revealed 39% Tuberculous, 33% reactive hyperplasia, 19% Lymphomas, 6% metastatic nodes and Toxoplasmosis, Infectious mononucleosis and sarcoidosis 1.3% each (table 01). Most patients with metastatic nodes were above 50 years and all were males and 86% were smokers. In tuberculous lymph nodes, ages of the patients were between 20 and 30 years with male to female ratio of1:1.8. In 14 lymphoma patients 10 were Non Hodgkin's lymphomas and 04 were Hodgkin's lymphomas. Among the 25 patients of reactive

hyperplasia all were young with age range of 05 to 27 years. Sarcoidosis patient was a male of 37 years and infectious mononucleosis and toxoplasmosis were young females.

Fig 01: SEX WISE DISTRIBUTION

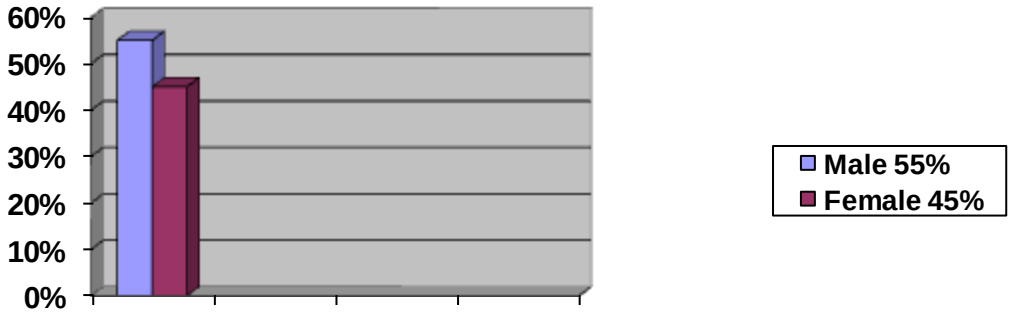

Fig 02: AGE WISE DISTRIBUTION

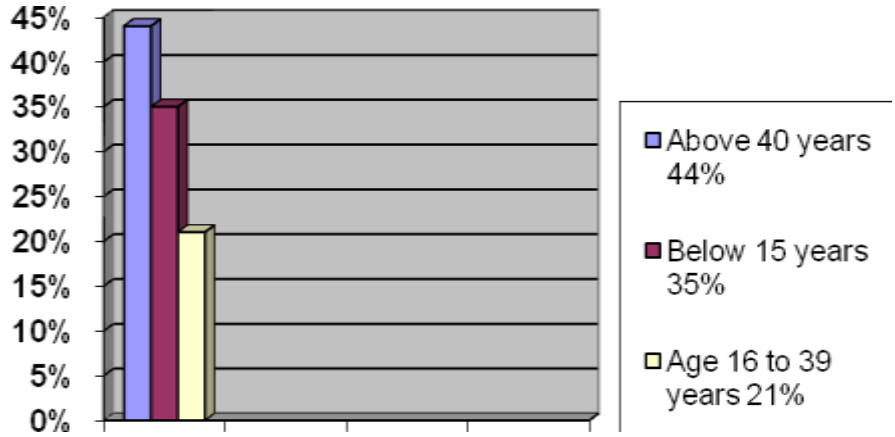

Table 01: DISTRIBUTION OF DIAGNOSED CASES OF CERVICAL NODES (n=75)

S. No	Disease	No. Of pts.	Percentage
1	T.B. Lymphadenitis	29	39%
2	Reactive hyperplasia	25	33%
3	Lymphoma	14	19%
4	Metastatic Nodes	4	6%
5	Toxoplasmosis	1	1.3%
6	Infectious Mononucleosis	1	1.3%
7	Sarcoidosis	1	1.3%

DISCUSSION:

Cervical lymphadenopathy is a common presentation of extra pulmonary tuberculosis in Asian population as documented by Maharjan M and his colleagues showing more than 54% tuberculous enlargement of cervical lymph nodes in his research[6.]This study supports our findings of lymph node enlargement due to tuberculosis which were followed by reactive hyperplasia and lymphoma. These findings are supported by international studies because tuberculosis is endemic in our area as compared to the west. According to the study by Bermejo A and colleagues 95% of the TB cases in the world lie in the developing countries and with the emergence of HIV infection, there is an increased surge of TB through the world[7]. Fatima S et al in her histopathalogical study of lymphadenopathy in Aga Khan University Hospital found TB lymphadenitis in 52.7%, reactive hyperplasia in 16%, metastatic lesions in 8.7% and lymphoproliferative disorders in 5.5% which correlate closely with our findings[8]. In the Saudi Arabian study

the findings reported are in sharp contrast to our series which shows malignancies 42%, tuberculosis 28% and 30% were reactive hyperplasia[2]. None of these studies have any case of infectious mononucleosis or sarcoidosis in comparison to our research. Extra pulmonary T.B. especially lymph node involvement increased due to emergence of HIV infection which was shown in a study by Bem C and his colleagues with more than 84% HIV positivity in lymphadenopathy patients but in our series HIV testing was not done due to the stigma of this disease in the local society set up in the study area population[9]. In an another study of lymph node biopsies metastatic lesions were 36.50%, hyperplasia 31.37%, granulomatous inflammation 14.93% and lymphoma was seen in 16.85% which is against our data because in this study malignancy is more than tuberculosis and other diseases which is also in contrast to the other local and African studies[5, 10].In this series males were 45% and females 55% which also does not correlate with our sex variables because we have 55% males and 45% females in our series. The same study reported more than 26% lymphomas as compared to 19% in our series. In all these studies there appears to be a consensus regarding age of patients with malignant adenopathy. Infectious mononucleosis and toxoplasmosis are a common cause of cervical lymphadenopathy in the west in contrast to our findings[11].In an old series McCabe RE and his colleagues found that toxoplasmic lymphadenitis most commonly involve cervical isolated lymph node which may mimic malignancies[12].Sarcoidosis of the head and neck area in isolation is a rare entity but lymph nodes of this region may be involved in systemic disease which was also the case in our study[13].

CONCLUSION: The important causes of lymphadenopathy in our setting are tuberculosis, reactive hyperplasia, lymphomas and metastatic malignancies. Tissue biopsies are required for establishing diagnosis and instituting appropriate treatment to reduce emergence of complications.

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