ORIGINAL ARTICLE

A Report of 150 Cases of Cervical Lymphadenopathy

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ABSTRACT
Background: The head and neck has extremely rich lymphatic drainage, an enlarged neck node is a common clinical observation and the differential diagnosis is wide, ranging from simple benign conditions to malignancy, a systematic approach for its diagnosis is important.
Objective: To find out frequency and pattern of different pathologies involving cervical lymph nodes and proper diagnostic protocol for their early definitive treatment.
Patients and Methods: This prospective descriptive study was conducted at the ENT Departments of Khyber Teaching Hospital, Peshawar from June 2002to Dec. 2009. A total of 150 patients were included in this study. Fine needle aspiration cytology (FNAC) was primarily carried out in all cases while biopsy i.e. incisional/excisional performed in cases where FNAC was inconclusive or to confirm diagnosis of malignancy.
Results: Total 150 Patients aged 3-74 years with a mean of 35.44±17.06. The male to female ratio was 1.2:1. Tuberculosis was the most common cause of cervical lymphadenopathy in 54 (36%)cases, followed by metastasis in 44 (29.33%)cases, reactive hyperplasia 28(18.66%)cases and lymphoma in 22 (14.66%)patients, including 10(6.67%) cases of Hodgkin's lymphoma and 12(8%) cases of non-Hodgkin's lymphoma. 2 (1.33%) patients had Kikuchi lymphadenitis, 1 (0.67%) patient had sarcoidosis. The FNAC accuracy was 86% in (128/150) cases 42(28%) patients needed open biopsy to reach a final diagnosis.
Conclusion: Tuberculosis was found the commonest cause of cervical lymphadenopathy followed by metastatic nodes, reactive hyperplasia/chronic non specific inflammation, lymphoma, Kikuchi and sarcoid lymphadenitis. Early accurate diagnosis is important for appropriate treatment of the underlying condition and prevents unnecessary complications. FNAC is a reliable diagnostic tool and should always be considered before biopsy.

Key words: Cervical lymphadenopathy, Tuberculosis, Metastatic lymph node, Reactive change, Fine needle aspiration cytology

INTRODUCTION
An enlarged neck node is a common clinical observation and differential diagnosis is wide-ranging, from benign infections to malignant conditions.[1]The head and neck has an extremely rich lymphatic drainage. There are numerous lymph nodes in the neck both superficial and deep.[2,3] The cervical lymphatic drainage is from the scalp, face as well as from the nose, sinuses, nasopharynx, upper aero digestive organs, salivary glands, ear and thyroid regions.[4] It is important to have knowledge of regional drainage of specific group of lymph nodes.[5] Tubercular lymphadenopathy is a common extra pulmonary manifestation of tuberculosis. Persistent lymph node enlargement often presents a diagnostic dilemma.[6] It cannot be easily diagnosed on clinical grounds or by routine laboratory investigations alone.[7] A series of investigations may be required to reach a definite diagnosis in order to start meaningful treatment.[8]

The workup for the diagnosis of enlarged lymph nodes in the neck includes clinical examination, Full blood count (FBC), Erythrocyte sedimentation rate (ESR), screening of viral profile for HCV and HBs antigen, imaging studies i.e. Ultrasound, X-ray, CT or MRI , lymph node FNA and finally open biopsy. Fine needle aspiration cytology (FNAC) is reliable, safe and accurate test as first line for evaluation of cervical lymphadenopathy. It can differentiate inflammatory and infective processes from neoplastic ones and avoids unnecessary surgeries[9]. In some cases

incisional or excisional biopsy is still required to reach a definitive diagnosis.[10]

PATIENTS AND METHODS

One hundred and sixteen patients with palpable lymph nodes in the neck were included in this study. This study was conducted at the Department of ENT Services Hospital, PGMI Lahore and Khyber Teaching Hospital, Peshawar, from June 2002 to Dce. 2009. The patient's inclusion criteria was enlarged neck node of more than one-month duration having no response to conservative treatment. Patients of either sex of all age groups were included. Exclusion criterion was patients with thyroidal, non nodal and acute inflammatory nodal lesion in the drainage area of neck lymph node. All patients in this study were subjected to detailed history, physical and ENT examination including oral cavity, nose, larynx oropharynx, hypopharynx and nasopharynx. Thorough neck examination was carried out in a systematic manner for size, site, consistency and number of nodes. Routine laboratory investigations included full blood counts, ESR, ultra sound, X-ray chest and FNAC. Open biopsy was done in those cases where FNAC was inconclusive. Patients, who had metastatic squamous cells, were subjected to panendoscopy to look for the site of primary tumour. The data was analyzed using SPSS version 12.

RESULTS

A total of one hundred and fifty patients (150) were enrolled in this study. There were 82 (54.66%) males and 68 (45.44%) females. Male to female ratio was 1.2:1 (Fig. 1). The patient's age was ranging between 3 to 74 years [35.44±17.06 years] (Table. 1).

The study revealed that 54 (36%) were tuberculous lymphadenitis, 44 (29.3%) were metastatic nodes, 27 (18%) were reactive hyperplasia, 22 (14.7%) cases were lymphomas and 2 (1.3%) patients (Table 2). In 44 case of metastatic nodes nasopharyngeal carcinoma was found in 16 (10.67%) cases, Ca hypopharynx and oesophagus in 8 (5.4%) cases while 6 (4%) cases each had their primary lesions in eosophagus and oropharynx. Three (2%) patients had primary lesion in oral cavity and tongue, two (1.67%) patients had salivary gland malignancy whereas origin of 3(2%) patients couldn't be located (occult primary). Among the 22 (14.67%) patient with lymphoma, 12 (8%) had Non-Hodgkin's and 10 (6.67%) patients had Hodgkin's lymphomas.

Out of the 150 cases 59 (39.3%) patients had involvement of posterior group of cervical lymph nodes. Submandibular and upper deep cervical lymph nodes were the next common affected site having 32 (21.3%) cases. More than one zone involvement was noted in 38% cases. In 85 (56.7%) cases there was unilateral cervical lymph node involvement and in the rest 65 (43.3%) it was bilateral and mid zone. FNAC was performed in all 150 cases and was found accurate in diagnosing the nature of primary pathology in 128 (85.3%) cases, and in 42 (28%) cases the biopsy was required to establish final diagnosis.

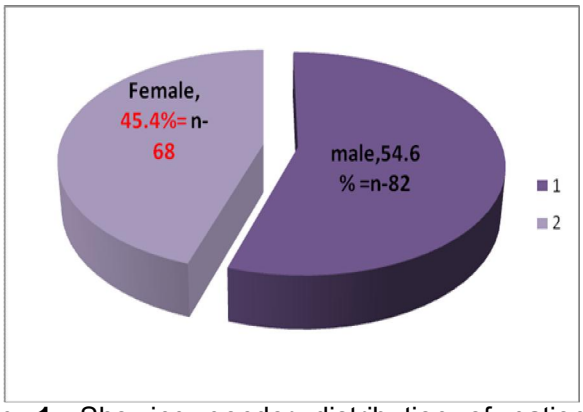

Fig 1: Showing gender distribution of patients cervical lymphadenopathy (n = 150)

Table 1: Frequency and percentages of ages

Age (years)	No.	%
3 – 15	18	12.0
16 – 30	15	10.0
31 – 45	48	32.0
46 – 60	45	30.0
61 – 75	24	16.0
Total	150	100

Table 2: Frequency and percentage of different lymph node pathology (n=150)

Lymph Node Pathology	No.	%
Tuberculous Lymph Nodes	54	36.0
Metastatic Lymph Nodes	44	29.0
React. Hyperplasia of L. node	27	18.0
Lymphoma	22	14.7
Kikuchi	2	1.33
Sarcoidosis	1	0.67
Total	150	100.0

DISCUSSION

Total 150 patients were included in the study including 82 (54.67%) male and 68(45.33%) female. Male to female ratio was 1.2:1. Khan et al. reported 1.2:1,[11] while Siddiqui and Ahmed[12] reported 52.9% male and 47.1% female cases (male to female ratio of 1.13:1).

The commonest cause of enlarged cervical lymph nodes in this study was tuberculosis which is 36% of total 54/150 cases with a male to female ratio of 1.4. Tuberculosis was more common in younger patients while malignancies were common in the old patients as mentioned in previously published data.[13]. In a study conducted by Siddiqui and Ahmed, the frequency of tuberculosis was 46%.[12] Olu-Eddo and Ohanaka[13] conducted a larger study of 250 patients with cervical node enlargement, tuberculous and metastatic disease were the main causes of lymphadenopathy with 114 (26.7%) and 113 (26.5%) cases respectively. Khan et al[11] reported 25 (33.3%) and 24 (32%) cases of tuberculous and metastatic nodes of 75 cases.

Tuberculosis was the leading cause of lymphadenopathy in 42 (36.2%) cases in our study. Balaji et al[14] reported 34.07% tubercular lymphadenitis in cervical lymph nodes, almost same as our study. In a study of 126 pediatric patient conducted by Adeswa et al[15] tuberculosis was the predominant cause of peripheral lymphadenopathy in 61 (48.4%) cases. Khan et al[11] reported 33.3% (25/75) cases of TB in their study. This slight variation may be due to age, immunological status of the patients, social and geographic circumstances.

Regarding metastatic cervical lymph nodes, out of 150 patients in our study 44 (29.33%) had metastatic nodes. Wide variable results can be seen in medical literature on the subject. Na et al[16] reports 43.8%, Khan et al[11] (32%), Dedivitis et al[17] 29.3% while Shaikh et al[18] noted only 7%. The justification for these variations may be patient's selection, demographic and geographical diversities and hospital protocols. Among the 44 patients who had metastatic nodes, 16 (10.67%) cases had primary in the nasopharynx, 8 (5.4%) cases had Ca Hypopharynx, 6 (4%) cases each had their primary lesions in oesophagus and oropharynx while 3 (2%) on floor mouth of the and tongue, 2 (1.33%) patient had the primary lesion in salivary glands in 9 (6%) primary couldn't be located. Adoga et al[19] reported 51.7% of the primary in the nasopharynx, 6.7% in oropharynx, 2.2% in hypopharynx, 27% in Sino-nasal, 7.9% in larynx and 4.5% in parotid gland. Khan et al[11] reported 50% carcinoma nasopharynx, 25% hypopharyngeal cancer and 12.5% cancer both in tongue and oropharynx each.

Reactive hyperplasia and non-specific inflammation was recorded in 18% (27/150) lymph nodes in our study in similar range that was observed by Khan et al[11] 21.3% and Sheikh et al[18] Olu-Eddo et al[13] noted reactive changes in 25.4%.cases.

Lymphoma was reported in 22 (14.66%) cases in this study with 12(8%) non-Hodgkin's and 10 (6.67%) Hodgkin's cases, while Khan et al[11] had lymphoma in 13.3% (10/75) of cases including 7 non Hodgkin's and 3 Hodgkin's lymphomas almost in the range we recorded, while Spinelli et al[10] detected lymphoma in 7.7% of paediatric patients significantly lower than our results. According to Olu-Eddo et al[13] non-Hodgkin's lymphoma was 17.4% and Hodgkin's lymphoma 5.6% in their study slightly higher than our reports.

In this study we also had report of 2 (1.33%) kikuchi (kikuchi-fujimoto) disease (or histiocytic necrotising lymphadenitis) which probably is a chronic lymph node hyperplasia of a non specific type of autoimmune disease, it is self limiting, its picture closely resembles to Hodgkin disease and we also had a report of 1(0.67%) lymph node having features of sarcoidosis, this patient also had other features of sarcoid disease.

Fine needle aspiration cytology was carried out in all cases which was found accurate in around 86% (128/150) of the cases and was helpful in early diagnosis in majority of cervical lymphadenopathy which minimized the need for open biopsy which was only performed in 28% (42/150) cases, Therefore we agree to the statement of Mittra and her colleague[20] that "FNAC is a more important investigation tool than an accurate investigation, which suggested about the lesions and guided us to do more advanced specific investigations for obtaining the diagnosis. FNAC helps the surgeons in selecting, guiding and modifying the surgical planning in patients who require surgeries or a general clinical management such as the need of an antibiotic and or neoadjuvent chemotherapy".

CONCLUSION

In our study tuberculosis remains the commonest cause of enlarged cervical node pathology while metastatic nodes are the second important cause

followed by reactive hyperplasia and lymphoma. All these condition require specific therapy.

Fine needle aspiration cytology is helpful in early diagnosis in majority of cervical lymphadenopathy which is important for proper management it also reduces financial burden on the patient. If an expert cytologist/cytopathologist is involved in the study the need of open biopsies can be minimised.

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