

# ENLARGED SOLITARY NECK NODE: A STUDY OF 75 PATIENTS

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## ABSTRACT

**Objective:** The objective of the study was to evaluate the causes of enlarged solitary lymph node of more than one month duration in the neck.

**Material and Methods:** This study was conducted at Departments of ENT and Head and Neck Surgery Postgraduate Medical Institutes, Peshawar from January 2005 to Dec, 2006. A total of 75 patients were included. All the patients were evaluated through detailed history and clinical examinations. Beside these, laboratory, radiological, endoscopic, Fine Needle Aspiration Cytology and histological studies were performed.

**Results:** A total of 75 patients with mean age of 35 years were studied during this period. Male to female ratio was 1.2:1. Out of 75 patients, 29 (39%) were metastatic, 27 (36%) tuberculous, 16 (22%) had lymphoma and 1 (1.5%) each of toxoplasmosis, infectious mononucleosis and sarcoidosis.

**Conclusion:** As malignancy was the commonest cause of solitary neck lymphadenopathy, so every patient especially old age group should be properly investigated to exclude metastatic diseases.

**Key words:** Solitary neck node, Fine Needle Aspiration Cytology (FNAC), Malignancy.

## INTRODUCTION

Cervical lymphadenopathy is one of the commonest clinical problems that is usually presented to ENT department. The differential diagnosis are extensive ranging from infections to malignant process. The infectious processes may be non-specific or specific like tuberculosis, infectious mononucleosis, histoplasmosis etc. These infections usually develop over weeks and months, often with minimal symptoms. Typical mycobacterial infections usually involve the anterior triangle lymph node and responds well to anti-tuberculous chemotherapy than atypical tuberculous lymphadenitis which may require surgical excision<sup>1</sup>.

Fine needle aspiration cytology (FNAC) is the first line diagnostic test but still lymph node biopsy plays an important role in typing of lymphoma and helps in those cases which cannot definitely be diagnosed by FNAC<sup>2</sup>.

Among patients, presenting with solitary cervical lymphadenopathy, the prevalence of malignancy may range from 10-40%<sup>3</sup>. The critical

challenge for primary care physicians is to identify which cases are secondary to malignancy or other serious conditions. Key risk factors for malignancy include older age, firm and fixed nodes<sup>4</sup>. The loss of intercellular adhesion is believed to be one of the earliest events in the process of metastasis<sup>4</sup>. Beside infections and malignancy, other diseases leading to nodal cells proliferation include connective tissue disorder like rheumatoid arthritis and systemic lupus erythematosus<sup>5</sup>. Certain drugs like phenytoin, hydralazine and allopurinol also causes reactive hyperplasia. There is also hyperplasia in lipid storage diseases when cells are loaded with lipid material<sup>6</sup>.

## MATERIAL AND METHODS

This descriptive study was conducted in the ENT and Head and Neck departments of Postgraduate Medical Institute (PGMI) which comprises of Hayatabad Medical Complex and Lady Reading Hospital Peshawar. The duration of study was 2 years from January, 2005 to December, 2006.

All patients of both sexes and all age

group with solitary neck node seen in the department of ENT for the first time were included in the study.

Those patients having acute infectious disease with tender neck node in its drainage area were excluded. An informed consent was taken from all the patients. After detailed history, ENT, Head and Neck and local examination of the lymph node was carried out. Lymph node was examined for site, size, mobility, consistency and presence of other nodes.

Routine investigations including full blood count and ESR were done. Serological tests for toxoplasmosis and monospot test for Epstein bar virus was carried out in suspected cases.

X-ray neck for soft tissue swelling, x-ray chest for mediastinal involvement and primary lung tumour were carried out and CT scan was done whenever required for the extent of primary tumour in the upper aerodigestive tract. FNAC was done in all patients, in the pathology department using 23 guage needle. Lymph node biopsy was performed in patients not diagnosed on FNAC. Lymph node biopsy was not done in patients having known primary tumour in the upper aerodigestive tract. Panendoscopy was carried out under general anesthesia in cases of suspected or metastatic node on FNAC. In case of negative panendoscopy, blind biopsies were taken from the nasopharynx, base of tongue, tonsil, supraglottic larynx, pyriform fossa and bronchus. All the findings were recorded on a proforma and

statistical analysis carried out using SPSS version 11.

## RESULTS

A total of 75 patients with mean age of 35 years were studied during this period. Male to female ratio was 1.2:1. Four patients were referred from medical unit for lymph node biopsy where as 2 patients were referred from pediatric unit. The study revealed that out of 75 patients with solitary cervical lymphadenopathy, 29(39%) were metastatic, 27(36%) tuberculosis, 16(22%) had lymphoma, and 1(1%) each had toxoplasmosis, sarcoidosis and infectious mononucleosis (Table 1). The causes of primary growth is given in (Table 2).

In 16 patients with lymphoma, 9 were Hodgkin's and 7 were of Non-Hodgkin's type. Out of these 16 lymphoma patients, 10 were males and 6 females. One female patient of 21 years was diagnosed as toxoplasmosis and another 32 years old as sarcoidosis. Another female patient was diagnosed as infectious mononucleosis on monospot test. 51% of the patient belonged to very poor socio economic group whose monthly income was less then five thousand rupees.

## DISCUSSION

Cervical lymphadenopathy is a common clinical problem that confronts many specialties. Usually lymphadenopathy cannot be diagnosed easily on clinical grounds or by routine laboratory

**Table 1: Cases of Cervical Lymphadenopathy (n=75)**

No.	Disease	No. of patients	Percentage
1	Metastatic	29	39
2	Tuberculosis	27	36
3	Lymphoma	16	22
4	Toxoplasmosis	1	1.33
5	Infectious mononucleosis	1	1.33
6	Sarcoidosis	1	1.33
	Total	75	100

**Table 2: Distribution of Primary Growth (n=29)**

No.	Primary Growth	No. of patients	Percentage
1	Carcinoma Nasopharynx	08	28
2	Carcinoma Hypopharynx	05	17
3	Carcinoma Larynx	04	13
4	Carcinoma Tongue	03	11
5	Carcinoma Oesophagus	02	6.89
6	Carcinoma Maxilla	01	3.44
7	Occult Tumour	06	20.68
	Total	29	100

investigations and lymph node biopsy may be needed to reach a definitive diagnosis.

Metastatic disease was found to be the commonest cause (39%) in this study. This figure is comparable with 42% and 53% reported in international literature<sup>7</sup>.

Eighty five percent were squamous cell carcinoma and 15% were adeno-carcinoma. Carcinoma of the nasopharynx represent 28% of the cases which was found to be the most common malignancy in patients with solitary neck node followed by hypo pharyngeal carcinoma in 17% (5 patients). Out of these 3 patients had carcinoma of pyriform fossa and 2 patients had carcinoma of the post cricoid area. Carcinoma of the tongue represented 3 patients, carcinoma of supraglottic 3 and subglottic growth in one patient. Carcinoma of the nasopharynx as a commonest cause for metastatic solitary neck node has been reported in various local literature<sup>8</sup>. In all these patients endoscopic examination and CT scan was done to find the site and extent of the disease. It is debatable whether CT or MRI is more accurate for determining the metastatic nature of lymph node but neither is highly accurate. Size of lymph node is an important criterion as well as presence of normal higher echogenicity and normal hilar blood flow suggests a benign lymph node. Metastatic lymph node loses both hilar architecture and blood flow<sup>9</sup>.

Out of 29 patients with primary growth, 6 patients were labeled as occult primary in which FNAC reported malignant changes in aspirates of 5 patients and in 1 patients excisional biopsy was done. In all these 6 patients, panendoscopy and blind biopsies were negative. CT from base of skull to chest was done which was normal.

Positron Emission Tomography (PET) uses metabolic activity to evaluate for metastatic neck node and occult primary. Some studies have found PET helpful for staging Head and Neck cancer whereas others find it of no benefit relative to CT / MRI or ultrasound<sup>10</sup>. We did not use PET in our study.

Tuberculosis is one of the major public health problems all over the globe, Pakistan being no exception. Tuberculous cervical lymphadenopathy is the commonest form of extra pulmonary tuberculosis<sup>11</sup>. In this study with solitary neck nodes 25 patients (33%) were tuberculous lymphadenitis as compared to patients with multiple neck nodes in whom upto 50% of cervical lymphadenitis is due to tuberculosis. FNAC was diagnostic in 19 patients whereas the rest were proved on biopsy. In three patients, pus was aspirated which was negative for AFB and one

patient had discharging sinus which was biopsied.

Lymphoma is more common in pediatric and young age group. About 80% of children with Hodgkin disease have a neck mass – progressive enlargement of a lateral neck mass is often the only sign of disease in Head and Neck region<sup>12</sup>. The node most often appears discrete, rubbery and non-tender. Lymphoma of head and neck region presenting as a mass is a diagnostic challenge as it cannot easily be differentiated from carcinoma leading to multiple biopsies and diagnostic delay<sup>12</sup>. In this study lymphoma represented 16 (22%) of patients with solitary neck node. Age range was from 15-40 years. These included 10 cases of Hodgkin's and 6 cases of non-Hodgkin's disease. The incidence was high as compared to 5.8% reported in literature. In another study 7.3% incidence for Non-Hodgkin's and 4.6% for Hodgkin's lymphoma have been reported<sup>13</sup>. Mediastinal lymph nodes were detected in 5 cases and abdominal nodes were enlarged in 3 cases on ultra sonography. One patient was diagnosed as toxoplasmosis on biopsy in which FNAC showed reactive hyperplasia. One patient was labeled as infectious mononucleosis. In this case, there was lymphocytosis and monospot test confirmed the diagnosis. One case was labeled as sarcoidosis on biopsy. His ESR was high and other laboratory investigations were within normal limit. He was referred to medical unit and responded to treatment.

## CONCLUSION

In a tertiary care teaching hospital, patients presenting with solitary neck node are likely to have serious underlying problems like tuberculosis and malignancy and any patient with solitary neck node should be properly investigated.

## REFERENCES

1. Iqbal M, Bhutta TA. Tuberculosis, commonest causes of cervical lymphadenopathy in developing countries. *Ann King Edward Med Coll* 2002;8:16-8.
2. Liu ES, Bernstein JM, Sculerati N, Wu HC. Fine needle aspiration biopsy of pediatric head & neck masses. *Int J Pediatr Otorhinolaryngol* 2001;60:135-40.
3. Bazemore AW, Smukcer DR. Lymphadenopathy and malignancy. *Am Fam Physician* 2000;66:2103-10.
4. Bhattecharyya N. A predictive factor for neoplasia and malignancy in a neck mass. *Arch otolaryngol Head Neck Surg* 1999;125:303-7.
5. Abaidullah U. Cervical lymphadenopathy;

- experience in allied hospital. *J Coll Physicians Surg Pak* 2000;10:458-60.
6. Kelly CS, Kelly RE. Lymphadenopathy in children. *Pediatr Clin North Am* 1998;45:875-88.
  7. Afridi SP, Beg N, Memon F. Presentation of enlarged lymph node. *J Surg Pak* 2005;10: 41-3.
  8. Abdullah P, Mubarik A, Zahir N. The importance of lymph node biopsy in diagnosis of lymphadenopathy. *J Coll Physicians Surg Pak* 2000;10:298-301.
  9. Khan NK, Javaid A, Ahmad H, Lymph node diseases: a histopathological analysis of 98 cases at a tertiary care hospital in Peshawar. *Pak J chest Med* 2005;11:9-12.
  10. Abdel-Wahab MF, El-Din SS, Azab M, El-Tawil AA, Fawzy RA, Seene HA, et al. Comparative study between recent diagnostic techniques in undetermined lymphadenopathies. *N Egypt J Med* 1992;6:1512-8.
  11. Lau Sk, Kwan S, Lee J, Sei WI. Source of tubercle bacilli in cervical lymph node. *J Laryngol Otol* 1991;105:558-61.
  12. Urquhart A, Berg R. Hodgkin's and Non-Hodgkin's Lymphoma of head & neck. *Laryngoscope* 2001;111:1565-9.
  13. Ferrer R. Lymphadenopathy, differential diagnosis and evaluation. *Am Fam Physician* 1998;58:1313-20.

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