Original Article

# Frequency of Hodgkin's Lymphoma in Patient with Cervical Lymphadenopathy Presenting in a Public Hospital in Pakistan

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## ABSTRACT

**OBJECTIVES: To determine the frequency and pattern of presentation of Hodgkin's lymphoma in cervical lymph node at Liaquat University Hospital, and to see its pathological variants.**
**STUDY DESIGN: Case series.**
**STUDY SETTING: Surgical departments of Liaquat University Hospital.**
**STUDY DURATION: Five years from January 2000 to December 2004.**
**SAMPLING: Non-probable purposive.**
**INCLUSION CRITERIA: All patients of cervical lymph node enlargement of more than four weeks duration irrespective of age and sex.**
**EXCLUSION CRITERIA: Cervical lymph node less than 1cm.**
**STUDY VARIABLES: Study variables used were age, sex, symptom, clinical finding, stage and histopathology.**
**DATA ANALYSIS: Data analysis was done by using SPSS version 10.**
**RESULTS: A total of 500 patients with enlarged cervical lymph nodes were studied, amongst them 40 (8%) patients were diagnosed with Hodgkin's lymphoma (32 males and 8 females). Mean age of 40 patients was 23 years (range 9-44 years). Out of these 40 patients, in 8 (20%) patients it was difficult to differentiate lymphoma clinically from tuberculosis on clinical examination. Cervical swelling was the commonest symptom (100%) while fever, night sweats and weight-loss were present in 45% patients, 55% of patients were in stage III & IV (advance disease). Mixed cellularity was the commonest histological variant. All 40 patients after diagnosis and staging were referred to Nuclear Institute of Medical Radiotherapy for further management.**
**CONCLUSION: Although tuberculous cervical lymph node enlargement is very common, but Hodgkin's lymphoma has a definite possibility of occurrence (8% in our study). Therefore all patients with enlarged cervical lymph node should not be treated with anti-tuberculosis therapy on empirical basis. Diagnosis should be confirmed by biopsy, otherwise patients may land up with advanced stage of Hodgkin's lymphoma with poor prognosis.**


**KEY WORDS: Cervical lymphadenopathy, Hodgkin's Lymphoma, Biopsy.**

## INTRODUCTION

Lymphomas of the head and neck may arise in nodal or extra nodal sites. The head and neck region is the third most common site of involvement by malignant lymphoma [1]. Malignant lymphoma represents two to three percent of all malignant neoplasm of the head and neck [2]. The incidence of Hodgkin's disease varies with age, geographical location and socioeconomic class. It accounts for 20-45% of malignant lymphoma in western countries, but is much less common in Asians, with variable incidence of 4.4-18% of malignant lymphoma [3]. Over the last 20 years the number of lymphoma patients in the industrialized countries has increased dramatically [4]. Painless, enlarging neck mass, typically lower cervical and supraclavicular forming a confluent mass is commonest clinical presentation. It is often associated with contagious disease in the mediastinum and usually spreads in a predictable fashion from one nodal group to another via lymphatic [1,5]. To establish a firm diagnosis lymph node must be promptly removed as completely as possible. Diagnosis is followed by staging and planning of appropriate (stage oriented) therapy [4]. This study was aimed to determine frequency of Hodgkin's lymphoma in cervical lymph node at Liaquat University Hospital, to see the pattern of presentation and pathological variants of Hodgkin's lymphoma.

## METHODOLOGY

**Study design:** Case series.
**Study setting:** Surgical Departments of Liaquat University Hospital.
**Study duration:** Five years from January 2000 to

December 2004.

**Sampling:** Non-probable purposive.

**Inclusion criteria:** All patients of cervical lymph node enlargement of more than 4 weeks duration, irrespective of age and sex.

**Exclusion criteria:** Cervical lymph node less than 1 cm.

**Data Collection Procedure**

All the patients who fulfilled the inclusion criteria were submitted for detailed history and thorough clinical examination after taking informed consent. All the patients were submitted for FNAC, while the final diagnosis of Hodgkin's lymphoma was done by biopsy (incision/excision). Patients with Hodgkin's lymphoma were investigated for staging purpose. Data were collected on specially designed proforma.

**Study Variables**

Study variables used were age, sex, symptom, clinical finding, stage and histopathology.

**Data Analysis**

Data analysis was done by using SPSS version 10.

## RESULTS

During this study a total of 500 patients of cervical lymphadenopathy were seen, 225 (45%) were males and 275 (55%) were females. Out of total 500 patients Hodgkin's lymphoma was diagnosed in 40 (8%) patients. Out of these 40 patients, 32 (80%) were males and 8 (20%) were females. Other pathological diagnoses in the remaining 460 patients were non-Hodgkin's lymphoma, tuberculosis, metastasis, chronic non-specific lymphadenitis (**Table I**). Clinical presentation of 40 patients with Hodgkin's lymphoma is shown in table II. The mean age was 23 years (range 9–44). Painless cervical swelling of 12-18 months duration was the commonest symptom (100%). Anorexia was complained by 20 (50%) patients. Enlarged lymph nodes were discrete and rubbery (characteristic of Hodgkin's lymphoma) in 33 (82.5%) patients while in 7 (17.5%) it was difficult to differentiate clinically between Hodgkin's lymphoma and tuberculosis. Lymph nodes other than cervical (axillary, inguinal) were involved in 22 (55%) patients, mediastinal lymph nodes were enlarged (seen after investigation) in 19 (47.5%). Staging of Hodgkin's lymphoma was done according to Rappopart classification and majority of the patients (55%) were in advanced stage (stage 3 and 4) (**TABLE III**). Histopathology of 40 patients with Hodgkin's lymphoma showed mixed cellularity was the commonest histological variant in 18 (45%) patients, which, with other variances, are shown in **Table IV**. All 40 patients after diagnosis and staging were referred to Nuclear Institute of Medical Radiotherapy for chemo-radiotherapy.

**TABLE I:**

**PATHOLOGICAL LESIONS OF CERVICAL LYMPH NODES (n=500)**

| Pathology | No. of Patients | Percentage |
|---|---|---|
| Hodgkin's lymphoma | 40 | 8 |
| Non Hodgkin's lymphoma | 34 | 6.8 |
| Tuberculosis | 344 | 68.8 |
| Metastasis | 51 | 10.2 |
| Chronic non-specific lymphadenitis | 31 | 6.2 |

**TABLE II:**

**CLINICAL PRESENTATION OF 40 PATIENTS WITH HODGKIN'S LYMPHOMA IN CERVICAL LYMPH NODE**

| Symptom & Findings | No. of Pt |
|---|---|
| Painless cervical swelling | 40 (100%) |
| Fever | 19 (45%) |
| Night sweats | 19 (45%) |
| Weight loss | 19 (45%) |
| Anorexia | 20 (50%) |
| Respiratory symptoms | 8 (20%) |
| Enlarged lower cervical LN | 33 (82.5%) |
| Other cervical LN groups | 27 (17.5%) |
| Bilateral LN | 4 (10%) |
| Axillary and inguinal LN | 22 (55%) |
| Splenomegaly | 9 (22.5%) |
| Hepatomegaly | 6 (15%) |
| Anemia | 18 (45%) |

*LN=Lymph node*

**TABLE III:**

**STAGING OF 40 PATIENTS WITH HODGKIN'S LYMPHOMA IN CERVICAL LYMPH NODES**

| Stage | No. of Patients |
|---|---|
| Stage 1 | 8 (20%) |
| Stage 2 | 10 (25%) |
| Stage 3 | 13 (32.5%) |
| Stage 4 | 9 (22.5%) |

**TABLE IV:**
**PATHOLOGICAL VARIANTS IN 40 PATIENTS WITH HODGKIN'S LYMPHOMA IN CERVICAL LYMPH NODES**

| Pathological Type | No. of Patients |
|---|---|
| Mixed cellularity | 18 (45%) |
| Nodular sclerosis | 15 (37.5%) |
| Lymphocyte predominant | 4 (10%) |
| Lymphocyte depleted | 3 (10.5%) |

## DISCUSSION

Hodgkin's lymphoma is relatively rare and its incidence varies with geographical location. It accounts for 20-45% of malignant lymphomas in western countries. In this study the frequency of Hodgkin's lymphoma is 8% in cervical lymphadenopathy and is comparable with other Asian results 4.4-18% [3,6]. Consistently low rates of Hodgkin's lymphoma in Asians suggest genetic resistance to disease development. Other risk factors may include smoking, environmental exposure to cancer causing agents or immunocompromised status [7]. Among other pathologies tuberculosis was the commonest cause of cervical lymphadenopathy. Same results were observed in other local studies but not internationally [6,8]. This may be due to some genetic resistance to Hodgkin's disease and because the frequency of tuberculosis is high in our country. Bimodal pattern was not observed in our patients (range 9–44 years), as in western studies [9,10]. However males were predominantly affected (80%) which is comparable with other studies [6,11]. Regarding clinical presentation cervical swelling was the commonest symptom which was present in 100% of patients, as observed in other studies 70–100% [3,6]. In our study 45% patients were in stage I & II (early diseases), while 55% of patients were in stage III & IV (advance diseases). It is very much comparable to other studies, Stark GL observed 36% in early stage, 64% in advance diseases while Hong et al, analyzed 34 patient of Hodgkin's lymphoma in Taiwan in 1992, revealing extremely high incidence (80.6%) of advance clinical stage (III and IV) [12,13]. In our study mixed cellularity was most common (45%) where as in other studies nodular sclerosis was more common (44–69%) [3,12,14].

## CONCLUSION

Tuberculous cervical lymph node enlargement is very common in our patients, Hodgkin's lymphoma has a definite possibility of occurrence (8% in our study). Therefore all patients with enlarged cervical lymphnode should not be treated with anti-tuberculosis therapy on empirical basis. Diagnosis should be confirmed by biopsy, otherwise patients may end up with advanced stage of Hodgkin's lymphoma and ultimately with poor prognosis.

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