Scholars Journal of Applied Medical Sciences
Abbreviated Key Title: Sch J App Med Sci
ISSN 2347-954X (Print) | ISSN 2320-6691 (Online)
Journal homepage: https://saspublishers.com/sjams/

OPEN ACCESS

Pediatric Surgery

The Importance of Biopsy and FNAC as A Diagnostic Tool in Cervical Lymphadenopathy Cases

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DOI: 10.36347/sjams.2020.v08i04.015 | **Received:** 20.03.2020 | **Accepted:** 28.03.2020 | **Published:** 17.04.2020

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Abstract **Original Research Article**

Objective: In this study our main goal is to evaluate the importance of biopsy and FNAC as a diagnostic tool in cervical lymphadenopathy cases. ***Method:*** This cross-sectional analytical study was done Total 260 patients with cervical lymphadenopathy, persisting for >2 weeks either localized or generalized attending inpatient and outpatient department (particularly surgical, medical, pediatrics, ENT, dermatology) of Dhaka Medical College Hospital, from June 2014 to July 2015. ***Results:*** The peak age incidence of cervical lymphadenopathy was observed between 2nd and 3rd decade of life (25.4% in 10 – 20 years and 25% in 20 – 30 years). Another peak was found in 50 years or above. The median age was 28 years and the lowest and highest ages were 5 and 66 years respectively.54% of patients were diagnosed clinically as having tubercular lymphadenitis, 27.7% metastatic carcinoma, 12.7% lymphoma and 5.0% non-specific reactive hyperplasia (NSRH). ***Conclusion:*** From our result, we can conclude that, diagnosis of lymphadenopathy is a team effort of the physician surgeon and the pathologist. If there is no regression in size or size increases, open biopsy can used for diagnosis in cervical lymphadenopathy cases.

Keywords: biopsy, FNAC, cervical lymphadenopathy.

INTRODUCTION

Cervical lymphadenopathy is usually defined as cervical nodal tissue measuring more than 1cm in diameter [1]. Lymphoid mass increases after birth until age 8-12 years and undergo progressive atrophy during puberty [2]. The system of lymphatic and lymphnodes filter and polices the extravascular fluid [1]. Enlargement of lymphnodes may be caused by proliferation or invasion of inflammatory cells or by infiltration of neoplastic cells [3].

Both haematological malignancies like leukaemias & lymphomas as well as metastatic carcinomas may be present with cervical lymphadenopathy. Sometimes other masses may also present in the neck that simulate lymph nodes. Lymph node biopsy remains an important and valuable diagnostic tool in evaluation of lymph node enlargement [4, 5].

Patients with unexplained localized lymphadenopathy who have constitutional symptoms or sign, risk factors for malignancy or lymphadenopathy that persists for three to four weeks should undergo a biopsy [6].

In our country facilities for laboratory investigation is minimum. So, for proper diagnosis and treatment of cervical lymphadenopathy it is important to have a sound knowledge about mode of presentation, status of the lymph node in different disease in our country.

In this study our main goal is to evaluate the importance of biopsy and FNAC as a diagnostic tool in cervical lymphadenopathy cases.In this study our main goal is to evaluate the importance of biopsy and FNAC as a diagnostic tool in cervical lymphadenopathy cases.

OBJECTIVE

General objective

- To assess the importance of biopsy and FNAC as a diagnostic tool in cervical lymphadenopathy cases.

Specific objectives

- To detect clinical diagnosis of the patients
- To evaluate tissue diagnosis

METHODOLOGY

Type of study	**Cross sectional analytical study.**
Place of study	In and out patient Departments of Dhaka medical college hospital, Dhaka.
Study period	June 2014 to July 2015.
Study population	Total 260 patients with cervical lymphadenopathy, persisting for >2 weeks either localized or generalized attending inpatient and outpatient department (particularly surgical, medical, pediatrics, ENT, dermatology) of Dhaka Medical College Hospital, Dhaka.
Sampling technique	Purposive

Inclusion Criteria

- Cases presented with cervical lymphadenopathy were included in this study and subsequent underwent FNAC or lymphnode biopsy.
- Cervical lymphadenopathy persisting >2 weeks.
- Both sexes of variable ages.

Exclusion Criteria

- Cases where FNAC or lymphnode biopsy could not be done.
- Patient presenting with disease totally unrelated to the enlargement cervical lymph node i.e. submandibular salivary gland swelling.

METHOD

- A detailed history was taken and a thorough physical examination with careful attention to the involved lymphnodes and its draining area was done. All the information was recorded in a fixed protocol.

Statistical Analysis

- Collected data was collated and appropriate statistical analysis was done using computer-based SPSS (Statistical program for scientific study) package

RESULTS

In table-1 shows age distribution of the patients. The peak age incidence of cervical lymphadenopathy was observed between 2nd and 3rd decade of life (25.4% in 10 – 20 years and 25% in 20 – 30 years). Another peak was found in 50 years or above. The median age was 28 years and the lowest and highest ages were 5 and 66 years respectively. The following figure is given below in detail:

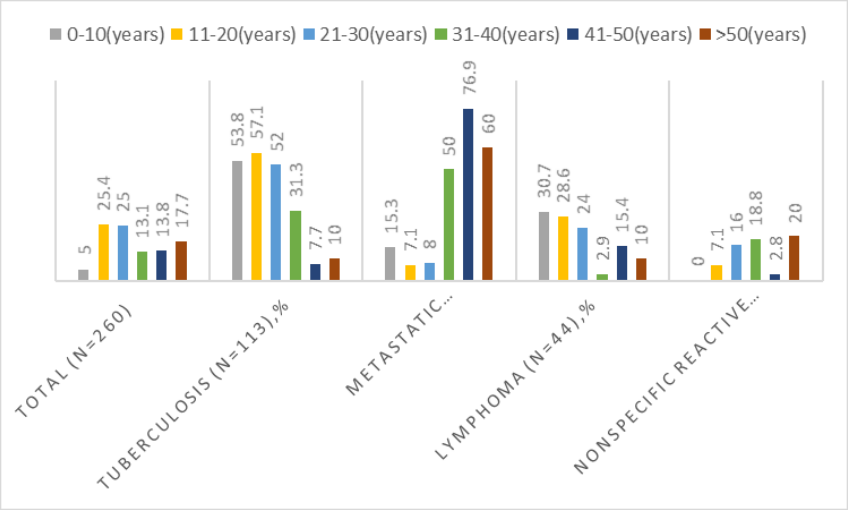

Table-1: Age distribution of the patients.

In figure-2 shows gender distribution of the patients where over half (52%) of the study subjects was female and the rest (48%) male giving a male to female ratio 1:1.2. The following figure is given below in detail:

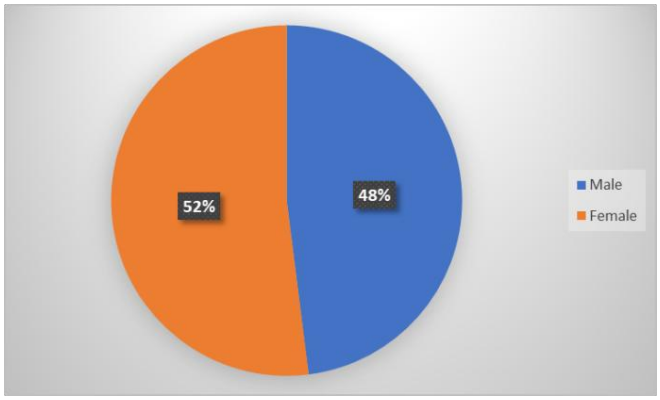

Fig-2: Gender distribution of the patients.

In table-1 shows clinical diagnoses of the patients where about 54% of patients were diagnosed clinically as having tubercular lymphadenitis, 27.7% metastatic carcinoma, 12.7% lymphoma and 5.0% non-specific reactive hyperplasia (NSRH). The following table is given below in detail:

Table-1: Distribution of patients by clinical diagnosis (n = 260)

Clinical diagnosis	Frequency	Percentage
Tuberculosis	142	54.6
Metastatic carcinoma	72	27.7
Lymphoma	33	12.7
NSRH	13	5.0

In table-2 shows distribution of various tissue diagnoses in FNAB and biopsy from cervical lymphadenopathy. Out of total, 234(90%) patients underwent FNAB and 26(10%) were biopsied. The following table is given below in detail:

Table-2: Distribution of various tissue diagnoses in FNAB and biopsy from cervical lymphadenopathy

Test	Total (n=260) No. (%)	Tuberculosis (n=113)	Metastatic carcinoma (n=82)	Lymphoma (n=44)	Nonspecific reactive change (n=21)
FNAB	234 (90)	111	78	26	19
Biopsy	26(10)	2	4	18	2

In table-3 shows Distribution of patients by tissue diagnosis. Tissue diagnosis (which include FNAC and histopathology) reveals that out of 260 patients, 113(43.5%) had tubercular lyphadenopathy, 82(31.5%) metastatic carcinoma, 18(6.9%) Hodgkin's lymphoma, 26(10%) non-Hodgkin's lymphoma and 21(8.1%) NSRH. The following table is given below in detail:

Table-3: Distribution of patients by tissue diagnosis (n = 260)

Tissue diagnosis	Frequency	Percentage
Tuberculosis	113	43.5
Metastatic carcinoma	82	31.5
Hodgkin's lymphoma	18	6.9
Non - hodgkin's lymphoma	26	10.0
NSRH	21	8.1

DISCUSSION

Tissue diagnosis in all cases was established by taking biopsy/FNAC from different group of lymph nodes. Due to easy access tissue was taken mostly from posterior cervical group (54.2%). In this study of 260 cases tissue diagnosis reveals 43.5% tuberculosis 31.5% metastatic carcinoma, 16.9% lymphoma and 8.1% reactive change. Similar incidence was shown by several studies [6-8].

Cervical lymphadenopathy due to tuberculosis was the commonest cause out of 260 cases and comprised of 43.5%. Another study from India showed result (43%)[9], other study from Saudi Arabia showed 37.9%[10]. So the overall result of this study relates closely to the studies done by above workers.

These studies showed a higher incidence probably because those studies were conducted in general population. But the present study and other studies done in Bangladesh showed lower incidence

because these studies were largely hospital based. One study from South Africa showed 24.3%[9].

Lower incidence in these studies may be related to high socio-economic condition in these geographical areas. In the USA and the UK, the highest incidence of tuberculous lymphadenopathy occurs in between 25 and 50 years of age [10] in migrated population mainly from Asia and in immunocompromised patiente.g.AIDS. Male and female incidence in the present study showed male-female ratio 1:1.2. The study done showed, higher incidence of tuberculosis in female [11]. This may be because female is more conscious of their appearance and in the male dominated society; they have a low nutritional status.

CONCLUSION

From our result, we can conclude that, diagnosis of lymphadenopathy is a team effort of the physician surgeon and the pathologist. If there is no regression in size or size increases, open biopsy can used for diagnosis in cervical lymphadenopathy cases.

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