CERVICAL LYMPHADENOPATHY- A CLINICOPATHOLOGICAL STUDY OF 50 CASES IN A TERTIARY LEVEL HOSPITAL

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Abstract

Introduction: Cervical lymphadenopathy is common in Bangladesh and may present as diagnostic problem to the head neck surgeons. Diseases affecting cervical lymph nodes are of varying severity starting from simple curable infection to difficult incurable malignant disease.

Objective: The purpose of this study was to observe the various clinical presentations of cervical lymphadenopathy and correlate histopathological findings with the clinical diagnosis.

Methods: A cross sectional study was conducted during the period of 1st January 2013 to 31st December 2013 in CMH, Dhaka on 50 patients irrespective of age and sex presenting with cervical lymphadenopathy persisting for >2 weeks.

Result: In this series, tissue diagnosis by biopsy found tuberculosis (TB) 38% cases, metastatic carcinoma in 26%, non-specific reactive hyperplasia in 22% and lymphoma in 14% cases. Sixty eight percent cases were below 40 years of age. Male to female ratio in this series was 2.12: 1.

Conclusion: Twenty Four (48%) cases were diagnosed clinically as tubercular lymphadenitis, 12(24%) as metastatic carcinoma, 09(18%) non-specific reactive hyperplasia and 05(10%) cases were of lymphoma which were nearly similar to histopathological diagnosis.

Key-words: Cervical lymphadenopathy, FNAC, Biopsy, tubercular lymphadenitis, non-specific reactive hyperplasia.
Early stage of disease is often cured with radiation therapy alone. The presence of metastatic cervical lymphadenopathy has an adverse effect on survival. Elective neck irradiation to the clinically no neck could eradicate more than 90% of subclinical disease. Patients with metastatic carcinoma to the cervical lymph nodes from an unknown primary, supraclavicular localization and male gender are high risk factors. The prognosis in these cases is disastrous because of late diagnosis, and therapy is only palliative. Modern equipment and investigations for the evaluation of cervical lymphadenopathy are available at Armed Forces Institute of Pathology and Combined Military Hospital, Dhaka. A limited number of cases (only 50 cases) were studied in only one sophisticated centre in Bangladesh. So, it may not reflect the overall clinical picture of cervical lymphadenopathy in our population at large.

Materials and methods
This cross sectional study was carried out over a period of one year from January 2013 to December 2013. The study was conducted on 50 patients with cervical lymphadenopathy, persisting for >2 weeks attending inpatient and outpatient department of Otolaryngology – Head & Neck Surgery, Surgery, Medicine, Paediatrics of Combined Military Hospital, Dhaka. Irrespective of age and sex cases presenting with enlarged cervical lymph node were included in this study. Exclusion criteria included the cases where FNAC or lymph node biopsy could not be done, patients presenting with neck swelling other than enlarged cervical lymph node and cases who were not willing to be part of this study. A detailed history was taken and a thorough physical examination with careful attention to the involved lymph nodes and its draining area was done. After making a clinical diagnosis, further investigations were carried out. Contrast radiological investigations and endoscopy were carried out in relevant cases. FNAC/Lymph node biopsy was done in all the 50 cases and diagnosis was confirmed by histology.

Results
Table-I shows that cervical lymphadenopathy is most common during 2nd and 3rd decade of life (52%) with a peak incidence in the 2nd decade (32%). The peak incidence of tubercular lymphadenitis was in the 2nd decade of life (52.63%). The peak incidence of non-specific reactive hyperplasia was also in the 2nd decade of life (45.45%). Incidence of malignant disease increased with age of the patients. Lymphomas were found almost in any age.

Table-I: Age Incidence (n = 50).

<table>
<thead>
<tr>
<th>Age Group (years)</th>
<th>Total (n=50)</th>
<th>Tuberculosis (n=19)</th>
<th>Metastatic (n=13)</th>
<th>NSRH (n=11)</th>
<th>Lymphoma (n=7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 - 10</td>
<td>03(6.0)</td>
<td>01(5.26)</td>
<td>-</td>
<td>02(18.18)</td>
<td>-</td>
</tr>
<tr>
<td>11 - 20</td>
<td>16(32)</td>
<td>10(52.63)</td>
<td>-</td>
<td>05(45.45)</td>
<td>01(14.28)</td>
</tr>
<tr>
<td>21 - 30</td>
<td>10(20)</td>
<td>05(26.31)</td>
<td>01(7.69)</td>
<td>03(23.07)</td>
<td>01(14.28)</td>
</tr>
<tr>
<td>31 - 40</td>
<td>05(10)</td>
<td>02(10.5)</td>
<td>01(7.69)</td>
<td>01(9.09)</td>
<td>01(14.28)</td>
</tr>
<tr>
<td>41 - 50</td>
<td>07(14)</td>
<td>01(5.26)</td>
<td>04(30.76)</td>
<td>-</td>
<td>02(28.57)</td>
</tr>
<tr>
<td>51 - 60</td>
<td>07(14)</td>
<td>-</td>
<td>05(38.46)</td>
<td>-</td>
<td>02(28.57)</td>
</tr>
<tr>
<td>Over 60</td>
<td>02(04)</td>
<td>-</td>
<td>02(15.38)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Figure-1 show that male to female ratio in this series was 2.12: 1 and in tuberculosis it was 1: 1.11, in non specific group 1.75: 1 and in metastatic carcinoma 12: 1 and in lymphoma 6: 1.

Table-II shows that about 48% of patients were diagnosed clinically as having tubercular lymphadenitis, 24% as metastatic carcinoma, 18% non-specific reactive hyperplasia (NSRH) and 10% lymphoma.
Table II: Distribution of patients by clinical diagnosis (n=50).

<table>
<thead>
<tr>
<th>Clinical diagnosis</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuberculosis</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>Metastatic carcinoma</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>NSRH</td>
<td>09</td>
<td>18</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>05</td>
<td>10</td>
</tr>
</tbody>
</table>

Figure 3 shows that tubercular lymphadenitis tops the table accounting for 38% of cases. Metastatic lymph nodes were found in 26% cases, non-specific reactive hyperplasia in 22% and lymphoma in 14% cases. Out of 14% of lymphoma cases, 05 cases were of Non-Hodgkin’s disease.

Table III shows that out of 50 cases, 18(36%) had tubercular lymphadenopathy, 13(26%) cases were of metastatic carcinoma, 12(24%) of non-specific reactive hyperplasia and 07(14%) of lymphoma. Out of 14% of lymphoma cases, 05 cases were of Non-Hodgkin’s disease.

Table IV shows that the commonest site of primary tumour was larynx (30.76%) followed by nasopharynx, tongue, tonsil, thyroid, oropharynx, hypopharynx, nose & PNS (Peripheral Nervous System). The primary site could not be found in 07.69% of cases.

Table V shows that about 24(48%) cases were diagnosed clinically as tubercular lymphadenitis, 12(24%) as metastatic carcinoma, 09(18%) non-specific reactive hyperplasia (NSRH) and 05(10%) lymphoma which were nearly similar to histopathological diagnosis (Tubercular lymphadenitis in 19(38%) cases, metastatic carcinoma 13(26%), non-specific reactive hyperplasia 11(22%) and lymphoma in 07(14%) cases.

Table VI: Comparison of clinical and histopathological diagnosis (n=50).

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Histopathological</th>
<th>Clinical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuberculosis</td>
<td>24 (48%)</td>
<td>19 (38%)</td>
</tr>
<tr>
<td>Metastatic Carcinoma</td>
<td>12 (24%)</td>
<td>13 (26%)</td>
</tr>
<tr>
<td>NSRH</td>
<td>09 (18%)</td>
<td>11 (22%)</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>05 (10%)</td>
<td>07 (14%)</td>
</tr>
<tr>
<td>Total</td>
<td>50 (100%)</td>
<td>50 (100%)</td>
</tr>
</tbody>
</table>

Discussion
Cervical lymphadenopathy is a common problem in our clinical practice. This discussion is mainly based on observations made regarding presenting symptoms, clinical behaviour, signs and investigations in 50 cases of cervical lymphadenopathy at Combined Military Hospital, Dhaka during the period of January 2013 to December 2013. FNAC/Lymph node biopsy was done at Armed Forces Institute of Pathology in all the 50 cases and diagnosis was confirmed by histopathology. Cervical lymphadenopathy due to tuberculosis was the commonest cause out of 50 cases and comprises of 38% of cases in this series. Dandapat et al from India showed similar result in 43% cases, Abba et al from Saudi Arabia in 37.9% cases, Ojo et al from Nigeria in 38%, Anam in 40%, Mahabur RS in 43.5%, Akbar MA in 38.3% cases. So the overall result of this study relates closely to the studies done by above workers.
The study done by Jha et al13 from India showed similar result in 63.8% cases, Bezabih and Mariam14 from Ethiopia in 66.3% cases. These studies showed a higher incidence because those studies were conducted on general population. But the present study was done in Combined Military Hospital, Dhaka on Armed Forces personnel only.

Secondary metastasis is second to tuberculosis as the cause of cervical lymphadenopathy. In this study, metastatic lymphadenopathy accounts for 26% of cases. Mahabur RS11 reported it in 31.5% of cases, Imam AH15 in 21% and Akbar MA12 in 26% of cases as secondary metastasis. From abroad, it was observed by Kim et al16 (Malaysia) in 25.7% of cases and Ojo et al9 in 25% of cases. Figures are similar to the present study. Non-specific lymphadenitis in the present study is the third common cause of cervical lymphadenopathy comprising 22% of cases. Imam AH15 observed it in 20% of cases, Adeniji and Anjorin17 from Nigeria in 17.6%, Mathur et al18 from India in 19.3% and Ahmad19 from Pakistan found it in 20% of cases has reactive change. My observation is almost in conformity with their observation.

In this study, lymphoma comprised 14% of cases. Anam10 observed it in 17% of cases, Mahabur RS11 in 16.9% and Kim et al16 from Malaysia reported it in 12.5% of cases. These are quite similar to the present study. Cervical lymphadenopathy is most common in young adults. In the present series 68% cases were below 40 years of age. Similar age incidence (below 40 years) was observed by Imam AH15 in 75% of cases, Chowdhury HK20 in 72%, Akbar MA12 in 71.7% and Mahabur RS11 observed it in 68.1% of cases. This is in keeping with the findings of almost all other workers. Male to female ratio in this series is 2.12:1. This finding is consistent with many previous studies (Chowdhury HK20, Akbar MA12, Sheikh MM et al21 and Islam A22). Common sites of primary carcinoma presenting with cervical lymphadenopathy in this series were larynx in 30.76% cases, nasopharynx and oropharynx in 23.07%, tongue 7.69%, tonsil 7.69%, thyroid 7.69%, Nose and PNS in 7.69% cases. Common sites observed by Akbar MA12 were lung in 18.75%, pharynx in 18.75 %, larynx in 12.5% and tonsil in 12.5% cases. Reasons for variation may be due to small number of studied cases in this series.

In this series of cervical lymphadenopathy (clinically found) 48% patients were diagnosed as tubercular lymphadenopathy, 24% as metastatic lymphadenopathy, 18% NSRH and 10% lymphoma. In this series, tissue diagnosis by biopsy found tuberculosis in 38%, metastatic carcinoma in 26%, NSRH in 22% and lymphoma in 14% which were considered as confirmatory diagnosis. This result was similar to those of Imam AH15, Chowdhury HK20, Adeniji and Anjorin17 from Nigeria and Mathur et al18 from India. In this series tissue diagnosis by FNAC from different groups of lymph nodes reveals tuberculosis in 36%, metastatic carcinoma in 26%, NSRH in 24% and lymphoma in 14% which were almost similar to the result of biopsy.

Conclusion
Diagnosis of lymphadenopathy is a team effort of the physician, surgeons and the pathologists. If the patients' history, clinical examination points to a benign cause for lymphadenopathy, then careful follow up for 4 weeks has to be done. If there is no regression or increase in size, open biopsy should be done for reevaluation. In this study 24(48%) cases were diagnosed clinically as tubercular lymphadenitis, 12(24%) as metastatic carcinoma, 09(18%) as non-specific reactive hyperplasia (NSRH) and 05(10%) cases were of lymphoma which were nearly similar to histopathological diagnosis (Tubercular lymphadenitis in 19(38%) cases, metastatic carcinoma in 13(26%), non-specific reactive hyperplasia in 11(22%) and lymphoma in 07(14%) cases. Age incidence was prominent in second and third decades. Metastatic lymphadenopathy was most common after 50 years of age in contrast to tuberculous lymphadenopathy which was more predominant in younger age group.

Reference


