TUBERCULOUS CERVICAL LYMPHADENOPATHY: FNAC BASED STUDY OF 100 CASES

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Abstract

Objective: To determine the incidence of Tuberculosis (TB) in cervical lymphadenopathy based on FNAC as a diagnostic tool.

Material and Methods: This was a descriptive study conducted at the Department of ENT, Head and Neck Surgery, PGMI Lady Reading, Hospital, Peshawar during two years from January 2008 to December 2009. All the patients fulfilling inclusion criteria were properly evaluated in terms of detailed history, thorough examination and relevant investigation. Fine Needle Aspiration Cytology was performed in all patients after taking well informed consent and open biopsy only when FNAC was inconclusive. The data was collected on a proforma.

Results: The study included 100 cases of cervical lymphadenopathy. The ages of the patients ranged from 4-56 years with median age of 30 years. Females were 62, males were 38 and female: male ratio was 1.6:1. The majority of patients 60% belonged to lower socioeconomic group. The presenting symptoms were neck swellings in all cases (100%) followed by fever in 42 cases (42%) and cough in 15 cases (15%). History of contact with a Tuberculous patient was positive in 28 cases (28%). Fifty three cases (53%) were vaccinated against TB and 47 patients (47%) had no BCG scar. The ESR value was significantly high in 90 cases (90%) while Mantoux test was positive in 47 cases (47%). Tuberculosis was diagnosed in 92 cases (92%) by FNAC and 8 cases (8%) were diagnosed by open biopsy. These patients were subjected to regular follow up for response to treatment.

Conclusion: FNAC is the established diagnostic tool for Tuberculous cervical lymphadenopathy. It is less invasive, rapid and a cost effective procedure.

Key Words: Tuberculosis- Fine Needle Aspiration Cytology- Histopathology- cervical lymphadenopathy.

INTRODUCTION

Tuberculosis is a major health problem in Pakistan and other developing countries with an estimated one-third of the world’s population being infected and approximately 3-4 million new cases every year.1 Chronic cervical lymphadenopathy is a common clinical problem which has multifactorial aetiology.2 Cervical tuberculous lymphadenopathy is the commonest extra-pulmonary manifestation of mycobacterial infection.3 It may be the presentation of a systemic disease or a unique entity.4 A high index of suspicion is needed for diagnosis. A painless cervical lump can be diagnosed by thorough clinical work up, Tuberculin test, staining for acid-fast bacilli, radiological examination, fine needle aspiration, PCR, biopsy and culture.4 Cervical lymph nodes are the common sites of involvement while inguinal lymphadenopathy is rare. About 90% are unilateral. Maximum incidence occurs in 2nd and 3rd decade ranging from 54% to 75%.3 Cervical lymph nodes may be unilateral, bilateral, isolated or matted, firm or solid in nature.5,6 Recent techniques for diagnosing Tuberculosis in cervical lymphadenopathy include PCR, Ga67 scan and Ultrasound guided FNAC to avoid scar of surgery.2,7,8 In our study TB was mainly diagnosed by FNAC and open biopsy was performed in a few cases when the report of FNAC was inconclusive.

MATERIAL AND METHODS

This study was conducted at the Department of ENT, Head and Neck Surgery, Post Graduate Medical Institute, Lady Reading Hospital, Peshawar. This was a prospective descriptive study. The duration of the study was two years from January 2008 to December 2009. The sample size was one hundred patients with cervical lymphadenopathy fulfilling the inclusion criteria. A detailed history was taken, thorough examination of ENT and other systems was carried out. Baseline investigations like Hb%, BT, CT, blood complete, HbsAg, HCVAb, ESR and chest X-rays were carried out in all cases while relevant specific investigations were performed in some cases. A well informed consent was taken. The study was approved.

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RESULTS

This study included 100 cases of cervical lymphadenopathy. The age of the patients was from 4-56 years with a median age of 30 years (Figure 1). Females were 62, males were 38 and female: male was 1.6:1. Thirty-six (36%) cases were educated and 64(64%) cases were illiterate. The majority of the patients belonged to poor class 60% (Table 1). The presenting symptoms were shown in Figure 2. ESR value was significantly high in 90 (90%) cases while Mantoux test was positive in 47(47%) cases and negative in 53(53%) cases. Demographic distribution of patients was shown in Table 2. In 9(9%) cases CXR showed abnormal shadows suggestive of Pulmonary Tuberculosis. Tuberculosis was diagnosed in 92(92%) cases by FNAC correctly and its results were suggestive of TB. These patients were followed and 91(91%) cases showed improvement with Anti-Tubercular therapy, 4(4%) cases were lost to follow up and 5 (5%) cases were reassessed due to poor response and were found to have resistant TB which were referred to pulmonologist for proper treatment.

DISCUSSION

The significance of human mycobacterium tuberculosis infection has been recognized since the beginning of recorded history known by a wide variety of names such as the "white plague" or "consumption or wasting disease". These infections were a common cause of illness and death prior to the industrial revolution. Tuberculosis is the most frequent cause of peripheral lymphadenopathy in most countries of Asia and Africa. In Pakistan studies show that tuberculosis is the most common cause of peripheral lymphadenopathy. In our study, the female to male ratio was 1.6:1. The median age of the patients was 30 years with patients mostly presenting in their second and third decade of life which is in accordance with other local studies. The main bulk of the patients (66%) belonged to lower socioeconomic group and was uneducated (64%) which are in keeping with studies conducted by Khan JS, Bajwa M and Jindal N. The main complaints of the patients were neck swelling (100%) and low grade fever (42%) followed by cough (15%) and pallor (13%) which are also reported by other national and international studies. In our study history of contact with tuberculous patients was positive in 28% while 53% patients were vaccinated against TB which is in keeping with the study of Farooq A. Demographic distribution of patients was 36% from rural areas, 47% urban and 17% from Afghanistan which is comparable to study of Saeed MS. In our study Mantoux test was positive in 47(47%) cases while negative in 53(53%) cases which is contradictory to study of Baskota DK in which Mantoux test was positive in 96%. The reason may be the difficulty in reading the result of Mantoux test. However ESR and CXR findings were comparable to

Table 1: Patients Distribution on Basis of Socio Economic Status

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Socio-economic status</th>
<th>No. of cases &amp; percentage</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Lower</td>
<td>60(60%)</td>
</tr>
<tr>
<td>2.</td>
<td>Middle</td>
<td>30(30%)</td>
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<tr>
<td>3.</td>
<td>Upper</td>
<td>10(10%)</td>
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</tbody>
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Table 2: Demographic Distribution of patients

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Catchments Areas</th>
<th>No. of cases &amp; percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Urban</td>
<td>47(47%)</td>
</tr>
<tr>
<td>2.</td>
<td>Rural</td>
<td>36(36%)</td>
</tr>
<tr>
<td>3.</td>
<td>Afghanistan</td>
<td>17(17%)</td>
</tr>
</tbody>
</table>

Fig. 1: Age – Wise Distribution of Cases (n=100)

Fig. 2: Clinical Features
studies conducted by Baskota DK\textsuperscript{11}, Kato T\textsuperscript{12} and Ashfaq M\textsuperscript{13}. Tuberculosis was diagnosed by FNAC in 92 cases (92\%) while in 8 cases (8\%) it was inconclusive which were confirmed by open biopsy. This is comparable to other studies.\textsuperscript{13,14,15} The diagnostic potential of FNAC can be improved if it is accompanied by other ancillary techniques like microbial tests (culture, organism stains, molecular microbial tests) flow cytometry, immuno cytotechnology, cytogenetics, fluorescent in-situ hybridization (FISH) and PCR.\textsuperscript{16,17}

Our experience showed that FNAC is a reliable diagnostic tool in cases of tuberculous cervical lymphadenopathy and it should be used as a first line investigative procedure.

\textbf{CONCLUSION}

FNAC is a primary diagnostic tool for Tuberculous Cervical Lymphadenopathy. It is simple, safe, quick, reliable, accurate, minimally invasive, cost effective and suitable for developing countries like Pakistan. It can differentiate inflammatory conditions from neoplastic ones and can be performed as an outpatient procedure, in all age groups.

\textbf{REFERENCES}