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RESEARCH ARTICLE

CERVICAL LYMPHADENOPATHY–A CLINICOPATHOLOGICAL REVIEW

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ABSTRACT

Background: This study was carried out to describe the pattern of lymphadenopathy with demographic and clinical profiles of the patients presenting with cervical lymphadenothy and assessing relative diagnostic efficacy of the clinical evaluation, fine needle aspiration biopsy and open biopsy. **Method:** This prospective study was conducted in department of pathology in AL Ameen Medical collage , 150 cases of chronic cervical lymphadenopathy came to pathology department for FNAC or Histopathology were enrolled in this study. **Results:** Tuberculous adenitis is the common cause of cervical lymphadenitis with 63% cases followed by chronic non-specific lymphadenitis with 27.33% cases, lymphoma with 5.33% cases, secondary carcinoma with 2% cases and drug induced 2%.There were 44% males and 56% females Most of the patients belong to the poor socio-economical class and 80.7% of TB lymphadenitis belonged to low socioeconomic status,most of the cases were from rural area. Presenting symptom was swelling in the neck, unilateral lymph node involvement was seen in 92%,upper anterior deep cervical lymph node 44% followed by Sub-mandibular and sub- mental nodal involvement 22% cases were seen. Only 4% of the patient showed evidence of active tuberculosis on radiology, FNAC is conclusive up to 88%. **Conclusion :** Tuberculous adenitis is the common cause of cervical lymphadenitis usually present as unilateral lymph nodes enlargement without constitutional symptoms upper and anterior deep cervical followed by sub-mandibular and sub-mental commonly involed lymph node. In cervical lymphadenopathy FNAC is most reliable diagnostic tool, which is easy to perform, cost effective.

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INTRODUCTION

Cervical lymphadenothy is one of the common and important presentations of the underlying pathology of the head and neck region which has large number of differential diagnosis like neoplasms, infections (specific and nonspecific) and in immune deficiency disorders and also the rare disorders like Inflammatory pseudotumour (Plasma cell granuloma) and Kikuchi-Fujimoto diseases [Gupta et al., 2010]. Cervical lymphadenopathy is usually defined as cervical nodal tissue measuring more than 1 cm diameter [Jilani et al., 2014]. Based on duration, cervical lymphadenopathy is classified as acute lymphadenopathy (2 weeks duration), sub acute lymphadenopathy (2-6 weeks duration) and chronic lymphadenopathy which is considered as any lymphadenopathy that does not resolve by 6 weeks [Sambandan, 2011]. Etiological profile of cervical lymphadenopathy varies from region to region, in developing countries like India, acute respiratory infection, suppurative skin infection and tuberculosis are main causes for cervical lymphadenopathy while in developed countries secondary carcinoma are the most frequent causes for cervical lymphadenopathy [Mutiullah, 2009]. The commonest causes for cervical lymphadenopathy are tuberculous lymphadenitis which is a common manifestation of extrapulmonary tuberculosis, secondaries in the cervical lymph nodes, lymphomas and nonspecific lymphadenitis [Giles, 1985]. Various diagnostic modalities like fine needle aspiration cytology, ultrasonography and computerized tomography neck are now available to diagnose underying disease in cervical lymphadenitis [Yogesh, 2018]. Fine needle aspiration cytology is a cheap and accurate first line investigation in lymphadenopathy.3 Because of early availability of results, simplicity, minimal trauma and complications, the aspiration cytology is now considered as a valuable diagnostic aid and it provides ease in following patients with known malignancy and ready identification of metastasis or recurrence [Ghartimagar, 2011]. The purpose of this study was to describe the pattern of lymphadenopathy with demographic and clinical profiles of the patients presenting with cervical lymphadenothy.

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MATERIALS AND METHODS

This prospective study was conducted in department of pathology in AL Ameen Medical collage in january 2015 to december 2018. 150 cases of chronic cervical lymphadenopathy came to pathology department for FNAC or Histopathology were enrolled in this study. In these patients, age group, sex distribution, socio economical class and incidence of tuberculosis in cervical lymphadenopathy were studied. History, clinical presentation and family history were recorded. Relative investigations were carried out which included Blood Picture, Erythrocyte Sedimentation Rate (ESR) and Chest X-Rays. FNAC was done for tissue diagnosis, and when FNAC was non-conclusive, other investigations like excision biopsies were done. Exclusion criteria included patients who were already diagnosed, on treatment and with relapses within 1 year of age and lymph node of size less than 1 cm. Data was collected, statistically analyzed.

RESULTS AND OBSERVATIONS

Table 1. Prevalence of various causes responsible

Causes	Number	Percentage
Tuberculosis	95	63%
Chronic non-sp. adenitis	41	27.33%
Lymphoma	8	5.33%
Secondary carcinoma	3	2%
Drug induced	3	2%
Total	150	100%

Table 2. distribution according to age

Age	Number	Percentage
2-10	23	15%
11-20	24	16%
21-30	38	25%
31-40	53	35%
41-50	12	9%
Total	150	100%

Table 3. sex distribution

Sex	Number	Percentage
Male	66	44%
Female	84	56%
Total	150	100%

Male:female ratio = 1:1.2

Table 4. distribution as per income

Income group	Number	Percentage
Low income upto Rs600/month	113	75%
Middle income Rs600-1500/month	36	24%
High income greater thanRs1500/month	1	1%
Total	150	100%

Table 5. Rural and urban distribution

Urban/Rural	Number	Percentage
Urban	52	34.66%
Rural	98	65.33%
Total	150	100%

DISCUSSION

In the present series, tuberculous adenitis is the common cause of cervical lymphadenitis with 95 (63%) cases followed by chronic non-specific lymphadenitis with 41(27.33%) cases, lymphoma with 8 (5.33%) cases , secondary carcinoma with 3 (2%) cases and drug induced 3 (2%). Bhatt et al. in their study observed 51.9, 27.6, 9, 6.4, 2 and 2.3% lymph node involvement by T.B, Reactive hyperplasia, Abscess, Metastatic deposit from other primary Carcinoma, cystic deformity of lymph node, and lymphoma respectively [Bhatt, 2002]. Goutam biswas et al showed that the tubercular lymphadenitis ranked on the top (45.4%) followed by secondary metastasis from different other Primary malignancies (21.2%), Reactive hyperplasia (19.9%), lymphoma (7.0%), chronic granuloma (3.5%) and non-specific inflammatory involvement of lymph node (2.8%). Among the secondary deposits, Squamous cell carcinoma (8.5%) topped the list [Gautam Biswas, 2013]. In our series highest number of cases were seen in 31 to 40 years 35%,and 25% in 21 to 30 years.

Meera bai conducted a study in 2004 and observed that more number of cases was seen in 4-30 age group 11 cases amounting to 22%. 16% in 11-20 years age group, 16% in 31-40 group TB lymphadenits was more in 21-30 age, secondaries observed in 41-50 age group [Renuka, 2017]. In the series of Chamyal et al 1997 incidence of cervical lymphadenopathy was highest in 41-60 age followed by 1-20 years [Chamyal, 1997]. Pranshu Bhargave et al 2002 in their series observed TB Lymphadenitis has highest incidence and in age group of 21-40 (95%) [Bhargave, 2002]. In our series males were 44% and females were 56% with male female ratio was 1:1.2. In the study conducted by Renuka S. Melkundi et al showed males and females were affected equally with M:F ratio being 1:1[10].While study conducted by Meera Bai in 2004, ratio was 1.2:1,[Renuka, 2017]. Bharghave et al M.F. ratio was 1:1.6 [Bhargave, 2002] Richord swarz et al 1990 had a male : female ratio of 1.43: 1.7 [Bhargave, 2002] The observations made by Sarda et al 1990 had M.F. ratio of 1.3:1 [Sarda, 1990]. 80.7% of TB lymphadenitis belonged to low socioeconomic status which is comparable to 63% by Meera Bai in 2004 [10] and of Dandapat et al 1990 where they found TB incidence in low socio economic status patients amounting to 73%.5 [Dandapat, 1990]. All the150 cases in this study presented with swelling in the cervical region, 78 (52%) patient had fever with cough.

In most of the cases the presenting symptom was swelling in the neck and few of them had other constitutional symptoms which were not significant, results are similar with other studies [Abdul Qayoom Daudpota, 2013]. In our study, unilateral lymph node involvement was 92% and 8% having bilateral lymph node involvement results are similar with other studies [Jilani, 2014]. In our study, firm and discreet lymphadenopathy was present in 50%; firm, matted and mobile lymph nodes were present in 30%, fluctuate without sinus were present in 10%, rubbery and discreet lymph nodes were present in 8%, and lymph nodes which were hard in consistency was seen in 2%. A study by Ibrahim Mansoor et al. (2002) showed that the consistency of enlarged lymph node varied; it was solid in 325 (79.6%) patients and cystic with sinus formation in 94 (22.4%) patients [Jilani, 2014]. Study conducted by Renuka et al among the 50 cervical lymphadenopathy cases clinically examined 39 patients had firm consistency (78%), 10 had hard consistency accounting for (20%) and in one case rubbery consistency [Renuka, 2017]. In study conducted by Meera Bai 2004 firm constituted 70%, hard 28%.5[Renuka]. In Chamyal et al series firm nodes constituted 65.5%, hard 29.1%, cystic 3.6% and soft 1.8%.6[Chamyal, 1997].

Table 7. History, Clinical presentation, Investigation and Lab investigations

Symptoms	Number	Percentage
Swelling in neck	150	100%
Fever and cough	78	52%
Loss of weight and appetite	98	68%
Dysphagia and pain in throat	15	10%
Other symptoms involved	20	13%
Other lymph nodes involved	11	7%
TB exposure		
Yes	21	14%
No	129	86%
Unilateral/bilateral		
Unilateral	138	92%
Bilateral with other groups involved	12	8%
Parameters of enlarged lymph nodes		
Firm, matted and mobile	45	30%
Firm and discrete	75	50%
Fluctuant without sinus	15	10%
Rubbery and discrete	12	8%
Hard in consistency	3	2%
Affected group of Lymph nodes		
Sub-mandibular and sub-mental	33	22%
Upper ant. deep cervical	66	44%
Upper post. deep cervical	27	18%
Lower ant. deep cervical	21	14%
Lower post. deep cervical	3	2%

Table 8. Investigations

Radiological evidence of TB	Number	Percentage
No evidence (normal)	144	96%
Evidence of active TB	6	4%
Total	150	100%
FNAC	Numbers	Percentage
Conclusive	132	88%
Non-conclusive	9	6%
Open biopsy	9	6%

In our study, upper anterior deep cervical lymph node enlargement was seen in 44% of the cases while lower anterior deep cervical lymph node enlargement was seen in 14% cases. Upper posterior deep cervical lymph node was seen in 18% cases. Sub-mandibular and sub- mental nodal involvement comprised of 22% cases and lower posterior deep cervical lymph nodal involvement was seen in 2% cases. Study conducted by Abdul Qayoom Daudpota et al. (2013) shows that the most common site for lymphadenopathy is posterior triangle of the neck. Deep cervical lymph nodes were enlarged in 75.4% and other cervical lymph nodes were comparatively less affected [Abdul Qayoom Daudpota, 2013]. In the study conduted by Renuka et al. it has been seen that more number of cases have been involved in middle deep cervical lymph node i.e. mid jugular accounting for 44% followed by involvement of upper deep cervical in 40% of cases, 10% in supraclavicular group, 4% in posterior triangle and 2% involving submental lymph nodes i.e. more common in level III group of cervical lymph nodes [Renuka, 2017].Study by Meera bai in 2004 shows upper deep cervical lymphnodes were involved in 35 cases middle deep cervical lymphnodes in 11 cases and supraclavicular nodes in 4 cases [Renuka, 2017]. In our study, only 4% of the patient showed evidence of active tuberculosis on radiology. while Abdul Qayoom Daudpota et al. (2013) showed 3.64% cases having the same [Abdul Qayoom Daudpota, 2013]. FNAC is conclusive up to 88% in our study as compared to 87.77% in the study conducted by Maharajan et al. (2009) [Maharjan, 2009]. The overall clinical diagnostic accuracy in Chamyal and Sabargirish study was 88.3% which is comparable to the present study [Chamyal, 1997].

Conclusion

Tuberculous adenitis is the most common cause of cervical of cervical lymphadenopathy. Commonly effects in fourth and third decade,and females, poor socio-economical class, swelling in the neck as common presenting symptom ,unilateral involvement upper anterior deep cervical lymph node followed by Sub-mandibular and sub-mental nodal enlargement was seen were commonly involved lymph nodes. Tuberculous adenitis reactive lymphadenitis, Malignancy (primary and metastatic) & drugs were other causes responsible for cervical lymphadenopathy FNAC is most reliable diagnostic tool, which is easy to perform, cost effective , speedy results can be obtained and accurate.

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