Original Article

A study of clinical profile of patients with neck swelling at tertiary health care center

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Abstract

Background: Swellings in the neck may be due to various causes. These swellings can be divided into midline swellings and lateral neck swellings (LNS). **Aims and Objectives:** To study clinical profile of patients with neck swelling at tertiary health care center. **Methodology:** It was a cross-sectional study of 210 cases of palpable neck lesions from March 2015 to October 2016 at Chhatrapati Shivaji Maharaj general hospital and Dr. V. M Medical College, Solapur. Any patients with palpable lesion of neck referred is selected and the aspiration is done in central clinical laboratory of pathology department. **Result:** As per Symptomatology in Lymph nodes there was Lymphadenopathy in 18.57%, Weight lost in 18.10% and in Thyroid gland Swelling was present in 10.95%, Decreased weight in 6.47%, in Salivary gland - Swelling was in 1.90% followed by Pain in 1.43%. The maximum number of cases with neck swelling were with lymphnode involvement i.e, consisting of 131 cases (62.38%) while the cases with the thyroid gland swelling were 67(31.90%) the cases with salivary gland swellings i.e. group (3) were 10 (4.77%) and the cases with neck swellings not involving any specific organ were minimum in number in number i.e. 2(0.95%) which were included in miscellaneous group. The maximum number of cases were in the age group of 21 to 30 years i.e. 56 cases (26.66%) while the minimum number of cases were in the age group of 61 to 70 years i.e. 2 cases forming 0.95%. there was male preponderance with male: female ratio of 1.62:1 the maximum number of cases were in age group of 11 to 20 years i.e. 43 cases followed by 34 cases in age group of 21 to 30 years. In the of thyroid swelling there was female preponderance with male: female ratio of 1: 5.7. The maximum cases were in third decade. In male lesion are common in third and fourth decades. **Conclusion:** From our study it can be concluded that As per Symptomatology in Lymph nodes there was Lymphadenopathy and weight lost, for Thyroid gland Swelling and decreased weight, for salivary gland swelling and pain etc. The maximum number of cases were in the age group of 21 to 30 years in the thyroid swelling there was female preponderance.

Key words: Neck swelling, Thyroid gland, Salivary gland.

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Received Date: 13/03/2017 Revised Date: 12/04/2017 Accepted Date: 02/05/2017

Access this article online

Quick Response Code:

Website: www.medpulse.in

DOI: 04 June 2017

INTRODUCTION

Swellings in the neck may be due to various causes. These swellings can be divided into midline swellings and lateral neck swellings (LNS). The common swellings are lymph node swellings, salivary gland enlargement, thyroid enlargement and branchial cyst[1]. A neck mass in a 50-year- old smoker is different from neck mass in 15-year-old with respiratory tract infection. Lateral neck swelling in an adult is a common presentation for primary and secondary malignant lesions. Paediatric neck swellings differ from those in adults in that malignancy is much less likely[2]. The gold-standard procedure for the diagnosis of a neck swelling is open biopsy of the swelling with histopathological examination of the excised tissue. However, open biopsy of a metastatic cervical swelling prior to definitive treatment of the neck (usually by radical neck dissection) has been reported to lead a higher incidence of wound complications, regional neck recurrence and distant metastasis, than in patients who have no biopsy performed prior to definitive treatment[3-5]. FNAC has become an important first line of investigation in palpable masses anywhere in the body but especially in the head and neck area, sometimes replacing but complimenting tissue pathology in many clinical situations. It is a form of surgical pathology, practiced on cytologic samples. It is one of the most useful accurate sensitive, inexpensive, and rapid investigation available in the assessment of patients with LNS[6].

How to site this article: Satish Gopal Sankpal, Satish Pawar. A study of clinical profile of patients with neck swelling at tertiary health care center. *MedPulse – International Medical Journal.* June 2017; 4(6): 753-756. http://www.medpulse.in (accessed 06 June 2017).

METHODOLOGY

It was a cross-sectional study of 210 cases of palpable neck lesions from March 2015 to October 2016 at Chhatrapati Shivaji Maharaj general hospital and Dr. V. M medical college, Solapur. Any patients with palpable lesion of neck referred is selected and the aspiration is done in central clinical laboratory of pathology department .The procedure was first explained to the patient. Once the patients confidence was gained, the patient was made to assume a suitable position, depending upon the site of the swelling. The clinical findings were used in selection of the swellings. Labeled glass and the fixative were kept ready. The procedure of fine needle aspiration was performed using the technique described by A.John webb (1982).The material used in performing the FNAC were Sterile disposable needles 22 to 23 gauge and 1.5 inches long **,** 10 C.C. plastic Disposable syringes were used. Standard, clean dry grease free slides (75mm x 25mm) were used along with standard size coverslips (22Sq.Mm) **.** The fixative was made up of equal amounts of ether and alcohol. The aspirated material was spread on slide with the help of another slide and then clipped in to the fixative immediately to avoid air drying. Minimum three slides were prepared. The smears were allowed to fix for at least 30 minutes and that stained by papanicoloau's staining method (George N. papanicoloau, 1945) or by H and E method (L.G. Koss *et al* 1992). One was kept aside without staining wherever possible in order to perform stains like ziehl-neelson stain or any special stain, if required.

RESULT

Table 1: Distribution of the patients as per the clinical features

Symptomatology	No. of cases	Percentage
Lymph nodes	**131**	62.38
Lymphadenopathy	39	18.57
Weight lost	38	18.10
Cough >2Wks.	35	16.67
PUO	12	5.71
Night sweats	7	3.33
Thyroid gland	67	31.99
Swelling	22	10.95
Decreased weight	13	6.47
Palpitations	9	4.48
Nervousness	8	3.98
Excessive sweating	5	2.49
Preference for cold	4	1.99
Hoarseness of voice	3	1.49
Dyspnea on exertion	2	1.00
Preference for heat	1	0.50
Salivary gland	10	4.76
Swelling	4	1.90
Pain	3	1.43
Fever	2	0.95
Malaise	1	0.48
Miscellaneous	10	0.95
Total	210	100.00

As per Symptomatology in Lymph nodes there was Lymphadenopathy in 18.57%, Weight lost in 18.10% and in Thyroid gland Swelling was present in 10.95%, Decreased weight in 6.47%, in Salivary gland -Swelling was in 1.90% followed by Pain in 1.43%.

Table 2: Distribution of various tensions on FNAC of neck swellings in relation to organs

Organ	Cytological diagnosis	No. of cases	Percentage
Lymph node	Tuberculus lymphadenitis	**131**	**62.38**
		063	30.00
	Reactive lymphadenitis	037	17.61
	Acute supprative lymphadenitis	012	05.71
	Metastatic tumours	010	04.76
	Non-Hodgkins lymphoma	002	00.95
	Hodgkins lymphoma	001	00.48
	Inadequate for opinion	005	02.38
	Suspicious of malignancy	001	00.48
Thyroid gland		067	31.90
	Colloid goiter	054	25.71
	Thyroid cyst	004	25.71
	Hashimotos thyroidits	001	01.90
	Papillary carcinoma	001	00.48
	Benign thyroid lesion	003	01.43
	Inadequate for opinion	004	01.90
Salivary gland		010	04.77
	Pleomorphic adenoma	007	03.33
	Acute sialadenitis	002	00.95
	Chronic sialadenitis	001	00.48
Miscellaneous		002	00.95
	Lipoma	001	00.48
	Branchial cyst	001	00.48

The maximum number of cases with neck swelling were with lymphnode involvement i.e, group (1) consisting of 131 cases (62.38%) while the cases with the group (2) thyroid gland swelling were 67(31.90%) the cases with salivary gland swellings i.e. group (3) were 10 (4.77%) and the cases with neck swellings not involving any specific organ were minimum in number in number i.e. 2(0.95%) which were included in miscellaneous group.

Table 3: Age and sex distribution of cases

Sr. no	Age Group (yrs)	Number of cases				Total	
		Male	%	Female	%	No.	%
1	00-20	11	5.24	11	5.24	22	10.48
2	11-20	28	13.81	24	10.95	52	24.76
3	21-30	28	13.33	28	13.33	56	26.66
4	31-40	18	08.57	27	12.85	45	21.42
5	41-50	08	03.81	14	06.66	22	10.47
6	51-60	06	02.85	05	02.38	11	05.23
7	61-70	00	00.00	02	00.95	02	00.95

The maximum number of cases were in the age group of 21 to 30 years i.e. 56 cases (26.66%) while the minimum number of cases were in the age group of 61 to 70 years i.e. 2 cases forming 0.95% of the total cases in study group. The youngest patients was 5 years old while the oldest patients was 68 years old.

Table 4: Age and sex distribution of cases in neck region in relation to organs

Sr. no	Age Gr (year)	Lymph node			Thyroid gland			Salivary gland			Miscellaneous			Total	
		M	F	T	M	F	T	M	F	T	M	F	T	No	%
1	00-10	11	9	20	0	2	2	0	0	0	0	0	0	22	10.48
2	11-20	26	17	43	1	6	7	1	1	2	0	0	0	52	24.76
3	21-30	23	11	34	2	16	18	1	1	2	2	0	2	56	26.66
4	31-40	12	8	20	3	17	20	3	2	5	0	0	0	45	21.42
5	41-50	4	4	8	2	11	13	1	0	1	0	0	0	22	10.47
6	51-60	5	1	6	1	4	5	0	0	0	0	0	0	11	5.23
7	61-70	0	0	0	0	2	2	0	0	0	0	0	0	2	0.95
Total		81	50	131	9	58	67	6	4	10	2	0	2	210	100

From the table no. 4 we can see that in the group of lymphnode swelling there was male preponderance with male: female ratio of 1.62:1 the maximum number of cases were in age group of 11 to 20 years i.e. 43 cases followed by 34 cases in age group of 21 to 30 years.

In the group of thyroid swelling there was female preponderance with male: female ratio of 1: 5.7. The maximum cases were in third decade. In male lesion are common in third and fourth decades.

DISCUSSION

Lesions of head and neck are the most diversified and challenging amongst the swellings that are available for fine needle aspiration cytology. Most of these swellings, although superficially located, are related closely to the important anatomical structures of this region. Because of its minimally invasive nature, fine needle aspiration cytology has always been supported by clinicians as a replacement to the incisional biopsy. Although FNAC is fairly accurate, a relevant clinical history and a help from radiology regarding the nature and location of swelling can further improve the likelihood of correct diagnosis [6-9]. Fine needle aspiration biopsy is particularly useful in small settings where the facilities for histopathological diagnosis are lacking. Because of its hassle free nature, FNAC is particularly suitable for debilitated patients. Multiple lesions can be biopsied in single sitting and repeat biopsies are easy to get if the need arises [9-11].Soft tissue tumors are a heterogeneous group of benign and malignant lesions that develop from various nonepithelial, extraskeletal elements, including adipose tissue, smooth and skeletal muscle, tendon, cartilage, fibrous tissue, blood vessels, and lymphatic structures. Although soft tissues constitute a large proportion of the human body (12%), soft tissue tumors account for fewer than 1% of all tumors. The annual incidence of soft tissue tumors is approximately 300 per 100,000 people in the general population, with benign lesions exceeding malignant ones by roughly 100 times. Although most soft tissue tumors occur in the trunk and extremities, the head and neck also are frequently involved. In fact, head and neck sarcomas represent an estimated 15% of sarcomas in adults and 35% of sarcomas in children.[12–18] As per Symptomatology in our study in Lymph nodes there was Lymphadenopathy in 18.57%, Weight lost in 18.10% and in Thyroid gland Swelling was present in 10.95%, Decreased weight in 6.47%, in Salivary gland -Swelling was in 1.90% followed by Pain in 1.43%. From Table 2 , it can seen that in the group with lymphnode swellings tuberculous lymphadenitis was the common lesion having

63 cases making up 30% of all study cases. The least number of cases in lymph node group were in lymphoma category i.e. 3 cases making up 1.43% of study population. In the group of thyroid gland aspirates the maximum number of cases seen were of colloid goiter i.e. 54 cases making up 25.71% of all study cases. The minimum number of cases were of hashimotos thyroiditis and papillary carcinoma i.e of case of making up 0.48% each of the total study cases. In the group of salivary gland aspirates the total cases were 10 in number. The maximum number of cases were of pleomorphic adenoma i.e 7 cases forming 3.33% of total study cases and the least number of cases were of chronic sialadenitis i.e. 1 case forming 0.48% of study population and of acute sialadenitis were 2, forming 0.95% of total neck swelling cases. The cases seen under the heading of "miscellaneous" showed 1 case of lipoma making up 0.48% and 1 case of branchial cyst making up 0.48% of total study population. The maximum number of cases were in the age group of 21 to 30 years i.e. 56 cases (26.66%) while the minimum number of cases were in the age group of 61 to 70 years i.e. 2 cases forming 0.95% of the total cases in study group. The youngest patients was 5 years old while the oldest patients was 68 years old. There were 100 males in study group forming 47.62% of total cases while the remaining 110 cases were females constituting 52.38% if the cases in the study group. The male to female ratio was 0.92:1. So it was observed that maximum cases were seen in 21 to 30 years age group and minimum in 61 to 70 years age group. Also were frequently affected and female to male ratio was 1:0.91.

From the table no. 4 we can see that in the group of lymphnode swelling there was male preponderance with male: female ratio of 1.62:1 the maximum number of cases were in age group of 11 to 20 years i.e. 43 cases followed by 34 cases in age group of 21 to 30 years. In the group of thyroid swelling there was female preponderance with male: female ratio of 1: 5.7. The maximum cases were in third decade. In male lesion are common in third and fourth decades.

CONCLUSION

From our study it can be concluded that As per Symptomatology in Lymph nodes there was Lymphadenopathy and weight lost, for Thyroid gland Swelling and decreased weight, for salivary gland swelling and pain etc. The maximum number of cases were in the age group of 21 to 30 years in the thyroid swelling there was female preponderance.

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Source of Support: None Declared
Conflict of Interest: None Declared