SPECTRUM OF HEAD AND NECK MASSES IN KIST MEDICAL COLLEGE TEACHING HOSPITAL

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ABSTRACT

Head and neck region is a common site for swelling, so neck masses commonly present to the clinicians. The etiologies of head and neck masses is divided into inflammatory, congenital and neoplastic, so directed history, thorough systemic examination, cyto/histopathological examinations are the cornerstone to the diagnosis. This study was conducted to study the spectrum of head and neck masses in patients attending otolaryngology outpatient department of KIST Medical College Teaching Hospital. Three hundred and ninety five patients with head and neck masses were evaluated clinically and pathologically. Inflammatory lesions were commonest (68.1%) followed by neoplastic (26.1%). In inflammatory lesions reactive lymphadenitis was the most common (35.2%), followed by tubercular lymphadenitis (15.7%). Most common benign lesion was goiter (12.9%) followed by pleomorphic adenoma (2.5%). Malignant neoplasm compromised of 8.9% of head and neck masses, out of which metastatic lymph node was the commonest (4%). Inflammatory/infective masses still remain the commonest cause of head and neck masses. Tubercular adenitis should be considered as an important etiology in our context.

KEYWORDS

Congenital, head and neck masses, inflammatory, lymphadenopathy, neoplasm, pathology

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INTRODUCTION

Neck masses present commonly to clinicians. A large number of diseases can manifest as a palpable swelling in the head and neck region. Commonly presenting head and neck masses are due to lymph node, thyroid and salivary gland enlargement.

In children under 15 years, 90% of neck masses are benign and of these up to 55% may be congenital. Benign neck masses can be classified as congenital and acquired. The latter group is often enlarged lymphadenopathies, but there may be a wide range of different pathologies involved causing their swelling. In the adult population, 80% of malignant lesions are metastatic.[1]

The evaluation and management of patients who present with a neck lump should have a systematic and uncompromising clinical approach.[1] A directed history and thorough physical examination are the cornerstones on which a diagnosis is made.In particular, the age of the patient is critical in formulating an appropriate differential diagnosis for neck masses. Unlike adults, neck masses in children seldom represent ominous disease.[2]

So this paper presents the spectrum of head and neck masses regarding age, gender,site, clinical and pathological diagnosis according to age groups.

MATERIALS AND METHODS

This retrospective study was conducted in Department of Otorhinolaryngology & Head and neck surgery (HNS), KIST medical college teaching hospital, Lalitpur, Nepal during a period of 4 years from January 2010 to January 2014.Three hundred and ninety five patients with swelling in head and neck region, attending Otorhinolaryngology & HNS, outpatient department, during the period, were included in this study. Clinical history regarding age, gender, site of lumps were recorded.

The cases were stratified into infective / inflammatory lesions, congenital-developmental malformations and neoplastic lesions. Neoplastic lesions were further subdivided into benign and malignant lesions.

Pathological diagnosis was recorded from computer database. Data were analyzed using Statistical Package for Social Science (SPSS, version 17) for windows.

RESULTS

Total number of patients included in this study were 395. Out of which 353 (89.4%) patients were evaluated with FNAC and 42 (10.6%) patients needed further biopsy of the swelling to confirm the disease.

Mean age of the patients was 31.2 (2- 84) years.Most of the patients 90 (22.8%) were in the range of 20-30 years (Fig. 1) and there was slight female preponderance with male to female ratio of 1:1.2. Most of the patients 314 (79.5%) had swelling at lateral part of neck while only 81 (20.5%) patients presented with mid line swellings.

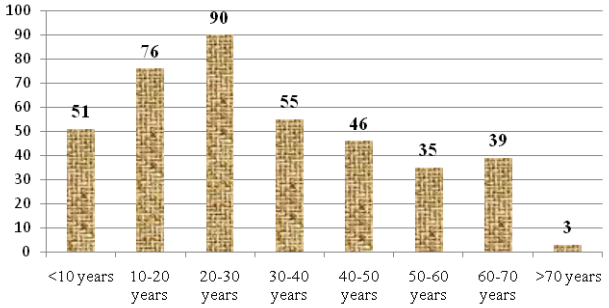

Fig. 1:
Distribution of patients according to age groups

Lymph node was the most common site involved (56%). Incidence of lymph node lesion was higher in male (54.09%), while thyroid lesion was higher in female (81.5%). Site wise distribution of head and neck lesion is shown in (Fig. 2).

Pathological evaluation of the cases revealed 68.1% inflammatory, 26.1% neoplastic and 5.8% congenital, as shown in the Table 1.

Table 1: Distribution of head and neck masses according to final diagnosis

Diagnosis	Number of cases	Percentage (%)
Infective/ Inflammatory	269	68.1
Reactive lymphadenitis	139	35.2
Tubercular lymphadenitis	62	15.7
Sialadenitis	43	10.9
Thyroditis	14	3.5
Abscess	10	2.5
Cysticercosis	1	0.25
Congenital/developmental malformations	23	5.8
Lymphangioma	7	1.8
Dermoid cyst	2	0.5
Epidermoid cyst	8	2.0
Thyroglossal cyst	4	1.0
Branchial cyst	2	0.5
Neoplastic lesions	103	26.1
Benign	68	17.2
Goiter	51	12.9
Pleomorphic adenoma	9	2.5
Lipoma	8	2.0
Malignant	35	8.9
Metastatic lymphnode	16	4.0
Papillary carcinoma	7	1.8
Follicular carcinoma	3	0.75
Lymphoma	3	0.75
Mucoepidermoid carcinoma	2	0.5
Anaplastic carcinoma	2	0.5
Adenocystic carcinoma	1	0.25
Acini cell carcinoma	1	0.25

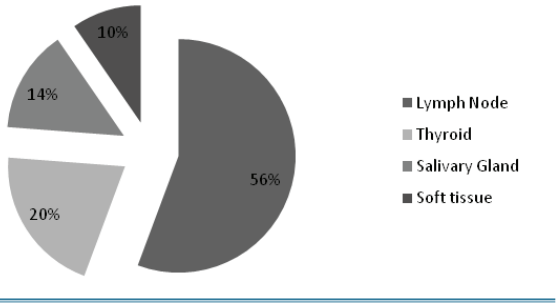

Fig. 2:
Site wise distribution of head and neck masses.

All the patients were also stratified according to age into children (≤ 15 years), adults (16-65 years) and elderly (>65 years).

The most prevalent disease in the children was infective / inflammatory (90.2%), followed by congenital-development malformation (7.4%). Malignant diseases were not seen in this age group. Similarly, the most common etiology of diseases encountered in adults were infective / inflammatory (63.9%) followed by benign lesions. However, in elderly patients no congenital- developmental malformation was noted. Neoplastic lesions were mostly seen in this age group (59.4%), among which half of the patients (31.3%) had malignant lesions (Table 2).

Table 2: Cross tabulation between age group and etiology of head and neck masses

	Congenital		Infective / Inflammatory		Benign lesion		Malignant lesion		Total
	n	%	N	%	n	%	n	%	
Children (<15 years)	7	7.4	85	90.2	2	2.1	0	0	94
Adult (16-65 years)	15	5.5	172	63.9	57	21.1	25	9.3	269
Elderly (>65 years)	1	3.1	12	37.5	9	28.1	10	31.3	32
Total	23		269		68		35		395

*Chi-Square Tests- $p<0.0001$

The most common malignant lesion was metastatic lymph nodes followed by thyroid malignancies. Malignancy was found to be high in this age group compared to children and adults. (31.3% vs 9.3%, p= < 0.0001)

DISCUSSION

Neck masses are the first sign of many diseases. It is important to have a focused approach when evaluating a patient with neck mass. Three hundred and ninety five patients with head and neck masses were evaluated in this study in four years time clinically and pathologically (FNAC or biopsy) to reach the diagnosis. The age group ranged from 2 to 84 yrs, maximum number of patients were in the age group of 20-30 years which was similar to other studies.[3,4] This helps us to know the diversity of head and neck masses in all age group. We included patients of all age groups however most of the studies of head and neck masses are mainly done in children.[5-8]

In our study lymph node was the most common site followed by thyroid and salivary glands. The findings were similar to other studies.[3, 9,10] Although lymph node lesions were common in male and thyroid in females, overall head and neck lesions were common in females.[11-14]

We evaluated all the patients with neck masses clinically and subjected them for FNAC or biopsy . Most of the cases were diagnosed by FNAC (89.4%) while only a small group of patients (10.6%) further needed biopsy to confirm the diagnosis. Rathod *et al*[10] and Smallman *et al*[15] concluded in their study that FNAC is the first line of investigation in the diagnosis of head and neck swellings.

In developing countries, inflammatory lesions are the most common neck masses; however, in developed countries congenital and neoplastic masses predominate.[14] Among 395 patients in our study 68.1% were inflammatory, 26.1% were neoplastic and only 5.8% were congenital neck masses. Similarly, in a study done by Ragesh *et al*[5], the most common cause of swellings were inflammatory adenopathy which accounts for 54%. In contrary, Balikei *et al*[14] observed neoplastic mass (47.6%), followed by inflammatory (33.4%) and congenital neck masses (18.9%) in their study. Roy A *et al*[16] also noticed neoplastic lesions to be more common comprising of 53%.

In our study, reactive lymphadenitis was the most common cause of inflammatory neck masses followed by tubercular lymphadenitis. This fact has also been supported by another study done in this region by Hirach and S *et al*[11] who observed reactive hyperplasia (41.5%) as the number one cause followed by tubercular lymphadenitis (28%). But Benzabih M *et al*[17] reported that the most frequent cause of benign enlargement was tuberculous lymphadenities (66.3%), followed by reactive lymph node hyperplasia (19.2%). We also found cysticercosis as a cause of neck mass in our study.

Goiter was the most common benign lesion followed by pleomorphic adenoma. Among malignant thyroid neoplasm papillary carcinoma was the commonest. Rathod *et al*[10] in their study also found that the most common benign thyroid lesion was goiter and malignant lesion was papillary carcinoma. In other studies goiter was excluded and was not discussed so far.[14] Thapa *et al*[18] studied 35 patients with head and neck tumors from Kathmandu and concluded that tumor of thyroid (20%) was the most common tumor followed by that of larynx (17.1%). All the thyroid

tumors were follicular type in contrary to our study. Among malignant lesion metastatic lymph node was most common in our study. El Hag IA *et al*[19] in their study also found metastatic carcinoma of lymph node as the most common type of malignant neoplasm.

Most neck masses of specific cause occur in rather predictable locations within typical age groups. The patient's age should be a prime consideration in the diagnosis.[2] Three main age groups need to be considered: children (<15 years), adult (16-65 years), and elderly (>65 years). Each age group exhibits a certain relative frequency of disease occurrence, which can guide the diagnosis. In children and adults, the most common cause of neck mass was infective / inflammatory. Congenital or developmental malformations were mostly seen in children. In adult, the rate of neoplasia increases and the rate of congenital lesion decreases. Benign neoplasms were mostly seen in adulthood where as malignant neoplasm should be considered in elderly. Our study has also supported the same notion and verified by many eminent authors in their studies.[11,14,18,20-22]

Thus, inflammatory/infective masses still remain the commonest cause of head and neck masses. Fine needle aspiration cytology is of considerable value to achieve correct diagnosis and management in patients with head and neck masses. Tubercular adenitis should be considered as an important etiology in our context. Congenital neck masses are common in children while benign lesions in adults. Any neck mass in elderly patients should be taken cautiously because the chance of malignancy is high.

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