How to Cite:
Agrawal, N., Agrawal, C., Hansrajani, V., Narang, S., Wadhwani, R., Dudhat, H., Singhai, T., & Mahor, R. (2022). Clinicopathological study of head and neck swellings in patients attending ENT OPD. *International Journal of Health Sciences*, *6*(S9), 3233–3240.
https://doi.org/10.53730/ijhs.v6nS9.13295

Clinicopathological study of head and neck swellings in patients attending ENT OPD

Dr. Navin Agrawal
Professor & Hod, Department Of Ent, Index Medical College Hospital & Research Center, Indore.

Dr. Chhavi Agrawal
Associate Professor, Department Of Ent, Index Medical College Hospital & Research Center, Indore.

Dr. Vishal Hansrajani
Associate Professor, Department Of Ent, Index Medical College Hospital & Research Center, Indore.

Dr. Shivam Narang
Pg Resident 3, Department Of Ent, Index Medical College Hospital & Research Center, Indore.
*Corresponding Author

Dr. Raksha Wadhwani
Pg Resident 3, Department Of Ent, Index Medical College Hospital & Research Center, Indore.

Dr. Harsh Dudhat
Pg Resident 1, Department Of Ent, Index Medical College Hospital & Research Center, Indore.

Dr. Tanmay Singhai
Pg Resident 1, Department Of Ent, Index Medical College Hospital & Research Center, Indore

Dr. Rishi Mahor
Pg Resident 1, Department Of Ent, Index Medical College Hospital & Research Center, Indore

***Abstract*---**A thorough clinical history and a good clinical examination including the findings of inspection and palpation are key factors for near accurate provisional diagnosis but histopathological examination is the only gold standard for confirmation of diagnosis till date for the head neck swellings. It has been observed that there was slightly

Manuscript submitted: 9 May 2022, Manuscript revised: 18 July 2022, Accepted for publication: 27 August 2022

higher ratio of female patients attending the OPD with complaints of neck swelling. Fine needle aspiration cytology is a quick, convenient, easy to perform, and fairly accurate method for cytological diagnosis on an outpatient basis. Importance of this study, particularly in the context of neck masses, lies in the fact that a preoperative cytological diagnosis of a benign lesion in a high-risk patient may obviate the need of a surgical intervention. Preoperative diagnosis of certain conditions like lymphoma and inflammatory pathology may also escape from unnecessary surgeries. It can be concluded that lymph node swellings are the most common amongst the neck swelling by far and on its cytological examination reactive lymphadenitis being the prevalent one. It can also be said that FNAC is the most reliable method for diagnosing the TB lymphadenitis and thyroid swellings.

***Keyword*---**Clinicopathological, head and neck swellings, OPD

Introduction

Head and neck swellings are common clinical condition to which an ENT clinician routinely encounters in OPD [1]. Head and neck region contain important vital structures like salivary gland, thyroid gland, major blood vessels, pharynx, larynx and many more so we need a thorough evaluation of head and neck swellings. Swellings in head and neck can arise from diverse range of tissues and pathological disorders may be inflammatory, neoplastic, congenital or acquired. Some are superficial like sebaceous cyst, while some are deep like thyroid swelling. The location of the swelling is an important clue as to what the swelling really is. Many swellings of trachea, oesophagus, mediastinum and infra clavicular area may also clinically appear as enlargement in neck rather in primary site, so to identify the cause of swelling, proper history and examination along with several investigations such as X-ray, Ultrasonography, Computed Tomography, fine needle aspiration cytology, excision biopsy is performed. Definitive treatment of most of the swelling is usually surgical excision [2]. Basic anatomical knowledge of Head and Neck for the clinical diagnosis, surgical skills and experience are very much essential to prevent operative injuries and complications. So, the purpose of the study is an effort to find out the causes for head and neck swellings and to determine the various management modalities available for treating these head and neck swelling. Clinically masses can be classified into congenital, acquired, infective and neoplastic [3]. Based on symptoms, signs, examination of neck & routine investigations, provisional diagnosis made, which can be further confirmed with FNAC for evaluation and early management of palpable lumps in head and neck.

The use of aspiration cytology was first reported by Kun in 1847. With the advent of rapid access neck lump clinics, an FNAC result is obtained quickly and in majority of cases a diagnosis is procured immediately pre-operatively and final diagnosis made after histopathological examination Fine needle aspiration cytology (FNAC) is a simple, quick and cost-effective method to sample superficial masses found in the neck. The technique is performed in the outpatient clinic. It causes minimal trauma to the patient. Masses located within the region of head

and neck including salivary glands and thyroid masses can be readily diagnosed using this technique [4].

In the head and neck region, FNAC is of great value because of the multiplicity of accessible organs and heterogeneous pathologies encountered an early differentiation of benign from malignant pathology greatly influences the planned treatment. [5] Fine needle aspiration cytology can be 3 performed under local anaesthesia and is particularly useful if a neck lump is thought to be malignant. There is no evidence that the tumor spreads through the skin track created by the fine hypodermic needle used in this technique. FNAC can be both diagnostic and therapeutic in cystic swellings [6].

FNAC is particularly helpful in the workup of cervical masses and nodules because biopsy of cervical lymphadenopathy should be avoided until all diagnostic modalities have failed to establish diagnosis. FNAC is clearly no substitute for histology, especially in determination of nodal architecture in lymphoma, the malignant pattern of follicular thyroid tumor, intracapsular spread in squamous carcinoma or in the distinction of pleomorphic from monomorphic adenoma.

Aim

To characterise clinical modes of presentation and clinical features along with diagnostic modalities and treatment of head and neck swellings.

Materials and Methods

Study Area: The Present study was conducted in Department of Otorhinolaryngology at Index Medical College Hospital & Research Centre, Indore (M.P.)
Study Population: A prospective study with a sample size of 100 patients was done over a period of 4 months from October 2021 to January 2022 at OPD in Department of ENT.
Inclusion Criteria:

- Patients with swelling in head and neck region attending ENT OPD.
- Those willing to participate in study with written informed consent.

Exclusion Criteria:

- Suspected neck masses of vascular origin on clinical examination.
- Patients who have not given the written informed consent.

Methodology

Patients of any age and both genders attending ENT OPD at Index Medical College with complaints of swelling in head and neck region were thoroughly examined and consent was taken for participation in study. By taking detail history of the patient and doing inspection and palpation of the swelling a provisional diagnosis was made on clinical ground.
Investigations Performed (as per requirement)

- Routine pre-operative investigations,
- Video laryngoscopy with 70-degree Hopkin rod endoscope,

- Ultrasonography
- Fine needle aspiration cytology
- Thyroid profile
- Biopsy

Statistical Analysis

The data was analysed using SPSS (Statistical Package for Social Sciences) 20.0 version. The descriptive statistics was performed. The correlation between Rinne's method and PTA was analysed using Kappa correlation coefficient. Inter- group comparison was done using Chi square test. P value (<0.5) was considered statistically significant.

Observations & Results

Table 1: Distribution of study subjects based on age

Age group	Number	Percentage
1-10 years	2	2.0
11-20 years	9	9.0
21-30 years	27	27.0
31-40 years	18	18.0
41-50 years	16	16.0
51-60 years	21	21.0
61 years or more	7	7.0
Total	100	100.0

Table 2: Distribution of study subjects based on site of swelling in the Neck.

			NUMBER	PERCENTAGE
NECK	ANTERIOR TRIANGLE	MIDLINE	4	4.71
		SUBMENTAL	1	1.17
		SUBMANDIBULAR	4	4.71
		CAROTID	74	87.06
	POSTERIOR TRIANGLE		2	2.35
	TOTAL		85	100

Table 3: Distribution of study subjects based on site of swelling in face Area.

		NUMBER	PERCENTAGE
FACIAL	PREAURICULAR AREA	4	26.67%
	POSTAURICULAR AREA	2	13.33%
	PINNA	3	20%
	CHEEK	2	13.33%
	PAROTID	3	20%
	OVER NOSE	1	6.67%
	TOTAL	15	

Table 4. Distribution of study subjects based on other ENT symptoms

Other ENT symptoms	Number	Percentage
Asymptomatic	88	88.0
Throat pain	3	3.0
Dysphagia	8	8.0
Dysphagia &hoarseness of voice	1	1.0
Total	100	100.0

Table 5: Distribution of study subjects based on VDOL Findings

VDOL	Number	Percentage
Pyriform fossa growth	2	6.67
Arytenoid growth	3	10.00
Base of tongue growth	1	3.33
NAD	24	80.00
Total	30	100.0

Table 6: Distribution of study subjects based on USG findings

FNAC findings	Number	Percentage
Reactive lymph node	30	30.0
Metastatic lymph node	10	10.0
Tubercular lymphadenitis	16	16.0
Colloid goiter	9	9.0
Nodular goiter	4	4.0
Papillary carcinoma of thyroid	2	2.0
Follicular carcinoma of thyroid	1	1.0
Thyroiditis	2	2.0
Lipoma	4	4.0
Sebaceous Cyst	1	1.0
Thyroglossal Cyst	1	1.0
Epidermoid cyst	2	2.0
Dermoid cyst	3	3.0
Keratin cyst	1	1.0
Trichilemmal cyst	1	1.0
Adenoid Cystic Carcinoma of Submandibular Gland	1	1.0
Mucoepidermoid Carcinoma of Parotid	1	1.0
Pleomorphic adenoma	3	3.0
Abscess	1	1.0
Keloid	3	3.0
Sialoadenitis	2	2.0
Lymphoma	2	2.0
Total	100	100

Discussion

Encountering patients with a head and neck mass is frequently met with d in routine ear, nose, and throat (ENT) practice, and the intricate anatomy of this important region often results in puzzling circumstances in diagnosing these lesions. Location, size, onset, and duration of a swelling along with the patient's age, are important clues for making a specific differential diagnosis. The aim of the present study was to study clinical modes of presentation, demography and clinical features along with diagnostic modalities and treatment of head and neck swellings.

The study included 100 patients with the mean age of 38.7300±15.63527 years (Range- 10.0-69.0 years). The mean duration of symptom was 31.3670±57.29641 month (Range- .07-360 months). Most of the patients belonged to the age group of 21-30 years followed by 51-60 years. The least commonly affected age group was 1-10 years and there was female preponderance (68.0%) amongst the patients included in the study.

In our study the age group 21-30 followed by 51-60 was most commonly observed in which is similar to the mean age which was observed as per earlier study Prasad KC et al 2007 [7] in India and they reported the average age group of the studied patients was 35 year. In our study, reactive lymph nodes were found in 30.0% patients and 16% patients had tubercular type lymphadenitis. Shakya et al in 2009 [8] reported that 50.4, 22.4, 4.8, and 10% affected lymph nodes were involved in reactive, tubercular, metastatic, and granuloma respectively. Study conducted by. Gupta et al in 2019 [9], among 101 patients tubercular lymph node accounted for 50.49% (51), non-specific for 20% (21) metastatic for 15.8% (16), lymphoma 7.1% (6), others 4.95% (5).

Haet al in 2003[10], reviewed a series of cases comprising 225 patients for efficacy of FNAC in head and neck masses. FNAC diagnoses were retrospectively correlated with available histological findings or with the outcome of treatment. Tuberculous (TB) lymphadenitis was the second most common diagnosis comprising 21% of the cases. Bhushan Lal et al in 2017(11) reported that on ultrasonographic examination, neck masses revealed homogenous echo pattern in 30 (60%) of cases, isoechoic in 5(10%), cases, heterogeneous echo pattern in 8 (16%) cases and 7 cases (14%) were cystic.

Fine needle aspiration cytology was found to be a good histopathological diagnostic tool in a majority of neck masses, however in 8 cases (16%) nodes were very small and, in these cases, an ultrasound guided FNAC was done. 6 cases (75%) were conclusive and 2 cases were inconclusive. In cases with inconclusive FNAC, excision biopsy clinched the diagnosis. A study conducted by Das et al. in 2017(12) reported that approximately 47.5% of the affected patients had infective or inflammatory lymphadenopathy, followed by tubercular lymphadenopathy (33.33%), metastatic nodes (13.33%), and lymphoma (1.67%). Das et al. also showed that hypo echogenicity and necrosis were present in all cases (100%) while matted lymph nodes were present in 16 (40%) patients.

Conclusion

A thorough clinical history and a good clinical examination including the findings of inspection and palpation are key factors for near accurate provisional diagnosis but histopathological examination is the only gold standard for confirmation of diagnosis till date for the head neck swellings. It has been observed that there was slightly higher ratio of female patients attending the OPD with complaints of neck swelling.

Fine needle aspiration cytology is a quick, convenient, easy to perform, and fairly accurate method for cytological diagnosis on an outpatient basis. Importance of this study, particularly in the context of neck masses, lies in the fact that a

preoperative cytological diagnosis of a benign lesion in a high-risk patient may obviate the need of a surgical intervention. Preoperative diagnosis of certain conditions like lymphoma and inflammatory pathology may also escape from unnecessary surgeries.

It can be concluded that lymph node swellings are the most common amongst the neck swelling by far and on its cytological examination reactive lymphadenitis being the prevalent one. It can also be said that FNAC is the most reliable method for diagnosing the TB lymphadenitis and thyroid swellings. Also, large proportion of swellings in neck are secondary metastasis as found in our study which is diagnosed quite accurately by FNAC and thus can help in the timely m/m of the patient suffering with head & neck malignancies.

References

1. Afridi S, Malik K, Wahed I. Role of fine needle aspiration biopsy and cytology in breast lumps. J college of Physicians and Surgeons Pakistan. 1995; 5:75-7
2. Bhushan Lal, Kuldeep Thaku, Ravinder Singh Minhas, Madhuri Dadhwal, Mukesh Surya, Shweta Sharma, Disha Sharma, Pankaj Chauhan, Deepa Thomas, Niti Sharma, Vikrant Singh Ghiyali Medico Research Chronicles 4 (05), 531-538, 2018
3. Celeste NP, Williams JF. Fine needle aspiration biopsy of the head and neck. USA: Butterworth Heinemann; 1996. p 1–13.
4. Gupta A, Jamwal PS. A Clinicopathological Study of Cervical Lymphadenopathy. Ann. Int. Med. Den. Res. 2019; 5(6): EN05-EN08
5. Ha EJ, Baek JH, Lee JH, Kim JK, Shong YK. Clinical significance of vagus nerve variation in radiofrequency ablation of thyroid nodules. Eur Radiol. 2011 Oct;21(10):2151-7
6. Harach HR, William ED. Fibrous thyroiditis. An immunopathological study. Histopathology 1983, 7: 739-751
7. KresnikE,Mikosch P, Gallowitsch HJ, Kogler D, Wiesser S, Heinisch M et al. European Journal of nuclear medicine.2001; 28: 816-21. 2017Seifert G, Donath
8. Pradeep Kumar Singh, Amit Kumar Singh, Dheeraj Kumar Singh, IOSRJDMS, Volume 16, Issue 1 Ver. VIII (January 2017), pp 38-41
9. Russel RCG, William NS, Bulstrode CJK. Bailey and Love's short practice of surgery. 24th edition. London: Arnold; 2004
10. Scott-Brown's Otorhinolaryngology Head & Neck Surgery, Vol.3, 8th Edition,2018, chap -39, 607-622.
11. Svante R Orell, Gregory F Street, Darrel Whitaker.Fine needle aspiration cytology, Elsevier, 4 th edition, chapter 5 with Peter van Heerde and John Miliauskas, Page 83119
12. Watkinson JC, Wilson JA, Gaze M, Stell PM, Maran AGD. Stell and Maran's Head and neck surgery, Butterworth-Heinemann, Oxford, 4th edition, chapter 2; 2000. p 20-21