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Spectrum of F.N.A.C in palpable post auricular lesions: A study of 2 years at a tertiary care hospital

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Abstract
Fine Needle Aspiration Cytology (F.N.A.C) is widely used for the assessment of various lesions. Post auricular lesions occurs in a wide spectrum of diseases including reactive conditions, infections such as tuberculosis, as well as primary lymphoid malignancies and secondary metastatic tumors. Post auricular lesions can include several anatomic sites and originating in different tissues and organs. Fine Needle Aspiration Cytology (F.N.A.C) is a simple, quick, cost effective procedure with minimum complications.

Materials and methods: The study included patients presented with a postauricular lesions in a tertiary care hospital from January 2018 to December 2019. Detail clinical history and significant findings were noted. Aspirations were done by 10 ml syringe and 22/23-gauge needles. Smears were stained with PAP, Haematoxylin and Eosin and MGG stain. Cytomorphological diagnosis was given after clinco-pathological correlations.

Results: Out of 50 patients of post auricular lesions studied, lymph node (53%) was the predominant site aspirated with tubercular lymphadenitis being the commonest lesion. Soft tissue lesions and miscellaneous constituted (39%) followed by salivary gland (8%).

Conclusion: There was a wide spectrum of swellings from simple cyst to malignant mostly metastatic lesion. Though excisional biopsy is the gold standard for diagnosis of head and neck neoplastic lesion. FNAC is a rapid, cheap diagnostic tool now-a-days with an excellent overall diagnostic accuracy in differentiating nonneoplastic lesions from neoplastic lesions.

Keywords: F.N.A.C, postauricular

Introduction

Fine Needle Aspiration Cytology (FNAC) is a simple and a rapid diagnostic technique. It is now being considered as a valuable diagnostic aid because of the early availability of results, its simplicity, minimal trauma. Fine-needle aspiration cytology is a valuable technique in the work-up of nodules and masses arising within the head and neck. Post auricular lesions can be congenital, inflammatory, benign or malignant. Palpable postauricular swelling includes various lesions of lymph node, salivary gland or soft tissue. [1]

Anatomical structures included in this region includes various lymph nodes, soft tissue, salivary glands, nerves, vessels etc.

The lymph node in the neck have been divided into at least six anatomic neck lymph node levels. Level I: submental and submandibular, Level II: upper internal jugular (deep cervical) chain, Level III: middle internal jugular (deep cervical) chain, Level IV: lower internal jugular (deep cervical) chain, Level V: posterior triangle, Level VI: central (anterior) compartment. Wide range of lesions are seen in this region from a simple cyst to malignancy providing a spectrum of possibilities.

FNAC is a prerequisite for various neck swellings as procedure is nontraumatic, easily accessible, inexpensive, excellent compliance, avoids anaesthetic complications and requirement of open surgical biopsy. FNAC differentiates non neoplastic lesions from neoplastic lesions thus eliminating need of surgical intervention in these lesions which can be treated conservatively [6].

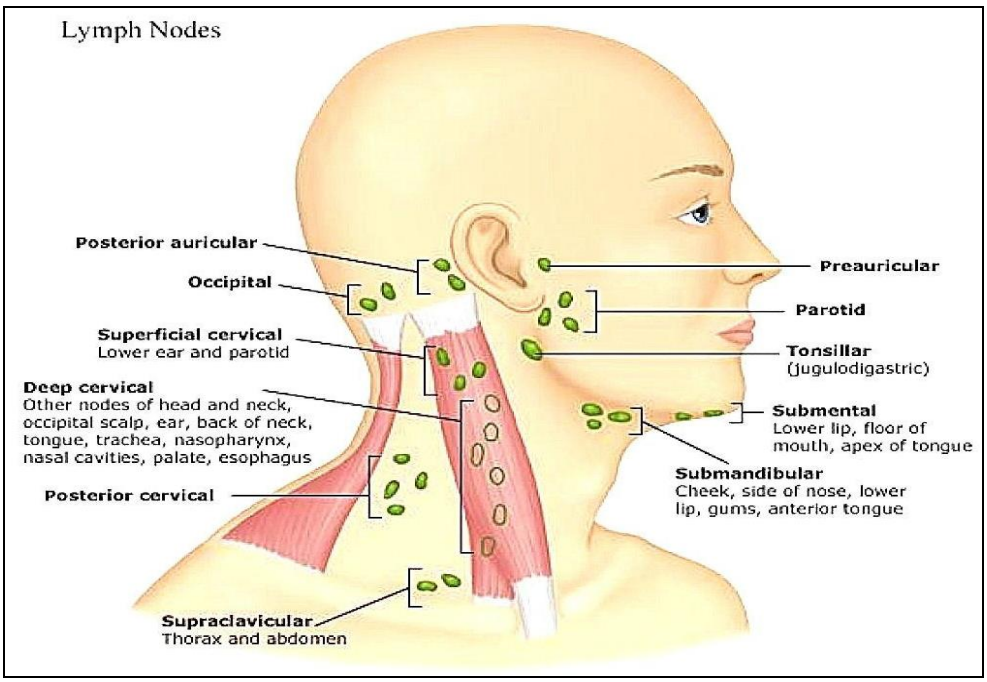


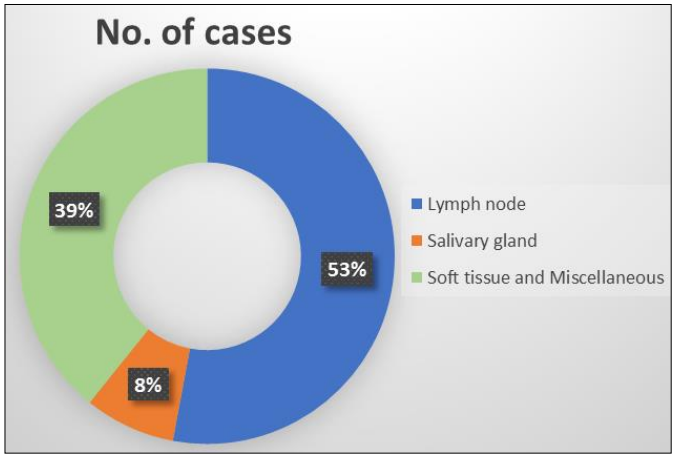
Image 1: Anatomy of cervical lymph nodes

Materials and Methods

The present study was conducted in Department of Pathology from January 2018 to December 2019 and included 50 patients with palpable post auricular swellings. Patients with palpable post auricular swellings referred to cytology department from department of & ENT and Surgery. Detailed clinical history of patients was noted in respect to presenting chief complain with duration, age, sex, significant past history family history, occupational history and treatment history. After explaining the procedure and taking consent, FNAC was done using 10 cc disposable syringe and 22/27 gauge needle taking all aseptic precautions. Three of four smears were prepared by following standard guidelines, Wet fixed smears in 94% alcohol were stained with PAP and Haematoxylin-Eosin stain while air dried smears were stained with MGG stain. Ziehl-Neelsen stating for acid fast bacilli was done in suspected tubercular lesions. Aspirations taken from various sites include lymph node, salivary gland and soft tissue and miscellaneous.

Result

The present study included 50 cases of palpable post auricular swellings from various departments as an OPD as well as indoor patient. Age group of patients ranged from <1 year to 80 years. Out of total cytology patients over a period of 2 years FNAC of post auricular lesions constituted 50 cases Maximum no. of patients were in the age group of 21-40 years 20(40%) followed by 0-20 years 19(38%) and least number of patients were seen in age group of above 60 years [Table 4]. Out of 50 patients 27(54%) were males and 23(46%) were females [Graph 2]. Site wise distribution of postauricular swellings FNAC [Graph-1] shows lymph nodes lesion 27 (53%) as the predominant site of FNAC followed by soft tissue and miscellaneous lesions 19(39%), Salivary glands 4(8%).



Graph 1: Distribution of post auricular swellings

Table 1: Distribution of Lymph node lesions

Lesions	No. of cases	Percentage
Reactive lymphadenitis	3	11.1
Inflammatory		
1) Non specific	8	29.6
2) Tuberculosis	11	40.7
Malignant		
1) Lymphoma	2	7.5
2) Metastasis	3	11.1
Total	27	100

Out of 27(53%) cases of lymph node lesions, tubercular lymphadenitis (40.7%) was the predominant cause of lymphadenopathy followed by chronic non specific lymphadenitis in 8(29.6%) cases. In malignant lesions, metastatic epithelial malignancy was the predominant finding (11.1%) and one case (7.5%) of lymphoma was found. [Table-1]

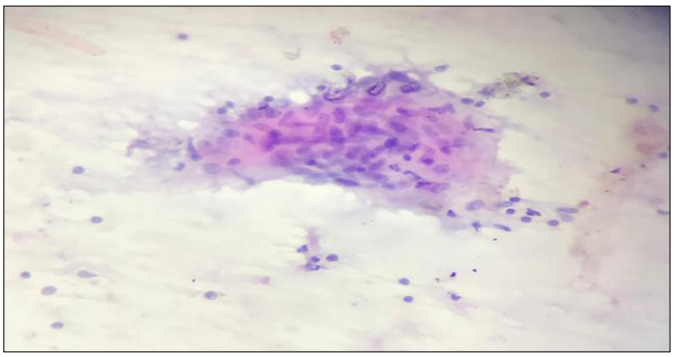


Fig 1: Tuberculous lymphadenitis

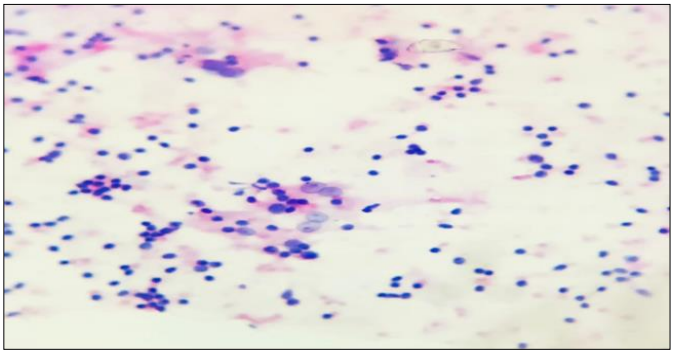


Fig 2: Hodgkins lymphoma

Table 2: Distribution of Salivary gland lesions

Lesions	No. of cases	Percentage
Inflammatory		
1) Acute sialadinitis	1	25
2) Chronic sialadinitis	1	25
Benign	1	25
1) Pleomorphic adenoma		
2) Malignant	1	25
Total	4	100

In salivary glands lesions, sialadenitis was observed in 50% of cases. Benign neoplasm included 25% case of pleomorphic adenoma and one case of malignant neoplasm was reported. [Table-2]

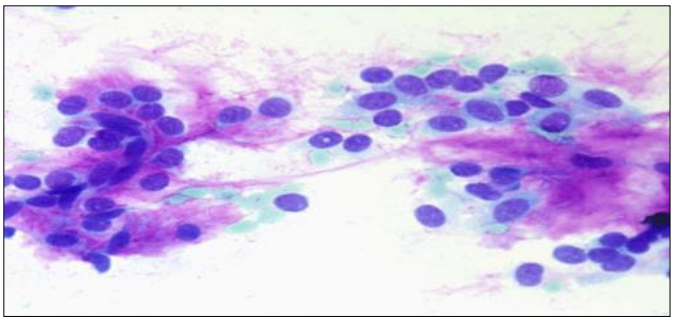


Fig 3: Pleomorphic adenoma

Table 3: Distribution Soft tissue and Miscellaneous

Lesions	No. of cases	Percentage
Benign		
1) Lipoma	6	31.5
2) Epidermal cyst	10	52.7
Malignant		
1) Squamous cell carcinoma	2	10.5
2) Others	1	5.3
Total	19	100

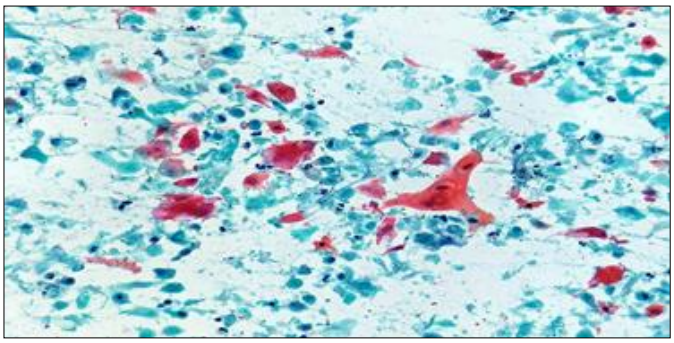


Fig 4: Squamous Cell Carcinoma

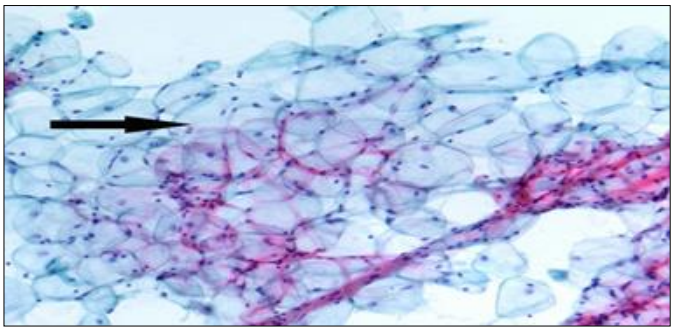
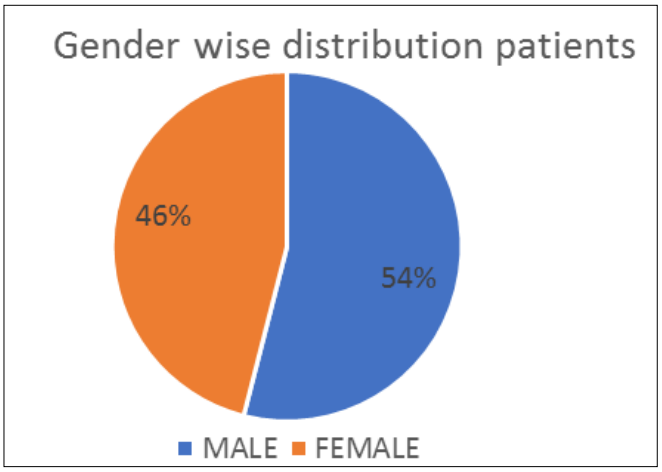


Fig 5: Lipoma

Table 4: Age wise distribution

Age group in years	No. of cases	Percentage
0-20	19	38
21-40	20	40
41-60	6	12
>60	5	10
Total	50	100



Graph 2: Gender wise distribution

Discussion

Fine needle aspiration cytology dates around 1950 and was used to diagnose cancer. It is now valuable in the diagnosis of inflammatory, infectious and degenerative conditions, in which samples can also be used for biochemical and microbiological analysis [1].

Postauricular lesions are a commonly encountered and should be diagnosed at the earliest.

Post auricular lesions occurs in a wide spectrum including reactive conditions, infections such as tuberculosis, as well as primary lymphoid malignancies and secondary metastatic tumors.

In the present study, a total number of cases were 50 over a

period of 2 years were studied. The study included patients from all age groups. Majority of patients being male. The most common age group affected was 21-40 years similar to a study by K Florence, K Suresh, K Lavanya [5] on head and neck masses. The pattern of these cases varied from inflammatory lesions to neoplastic lesions. FNAC is the first line of investigation in the diagnosis of a swelling in postauricular region. Lymph node was the most common site involved (53%).

In lymph node lesions tubercular lymphadenitis was the most common pathological finding which is in concordance with Bhagat *et al*. [3] and El Haq *et al*. [4].

In soft tissue and miscellaneous lesions benign lesions were commonest finding including 10 cases (52.7%) of epidermal cyst, 6 cases (31.5%) of lipoma. Three cases of malignant neoplasms comprising of 2 cases of squamous cell carcinoma and one case of metastatic epithelial tumor was reported. Bhagat *et al*. [3] reported neoplastic lesions in 63% cases with lipoma as the predominant benign tumor and squamous cell carcinoma as the commonest malignant neoplasm. A detailed history, clinical examination, radiological investigations, and immunohistochemistry in selected cases may help to locate the primary site of malignancy.

Conclusion

Though excisional biopsy is the gold standard for diagnosis of head and neck neoplastic lesion. FNAC is a rapid, cheap diagnostic tool now-a-days with an excellent overall diagnostic accuracy in differentiating nonneoplastic lesions from neoplastic lesions.

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