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General Surgery

A COMPARITIVE STUDY BETWEEN FINE NEEDLE ASPIRATION CYTOLOGY (FNAC) AND HISTOPATHOLOGICAL REPORT OF PAROTID GLAND MASS IN ANDHRA MEDICAL COLLEGE VIZAG

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ABSTRACT

BACKGROUND: FNAC is widely used technique in diagnosis of parotid lump as it is simple, quick, inexpensive, and minimally invasive technique.

OBJECTIVES: The aim of this study was to assess the sensitivity and specificity of FNAC in diagnosis of parotid mass. Parotid gland lesions form about 2-6.5% of all head & neck neoplasms in adults. They are easily accessible by FNAC , also cytology can provide distinction between parotid and non-parotid lesion , benign and malignant lesions, specific and non-specific inflammation.

METHODS: 30 patients were studied prospectively over 1year , FNAC was done for parotid mass & parotid mass specimen sent for histopathological examination. Histopathological findings are compared.

RESULTS: Out of 30 patients included in study

1. Overall male to female ratio 1:1.7 (male-11, female-19)
2. 21 cases pleomorphic adenoma(70%)
3. 2 cases warthin`s tumour(6.6%)
4. 2 cases basal cell adenoma(6.6%)
5. 1 case as chronic sialadenitis(3.3%)
6. 4 cases FNAC was pleomorphic adenoma , HPE of sent specimen came as mucoepidermoid carcinoma (13.3%)

CONCLUSION: FNAC though cheap and safe but its diagnostic accuracy was 86.6%, can`t lead alone histological diagnosis, histopathological examination remained to be value for diagnostic conformation of parotid gland mass.

KEYWORDS : FNAC , HPE, PAROTID GLAND MASS

INTRODUCTION

Salivary gland tumours are uncommon, accounting for between 2 to 6.5 percent of all neoplasms of the head and neck. About 70% of all salivary gland tumours arise in the parotid gland and the great number of this are benign tumours, with an average prevalence of 75%-85% of all parotid lesions. Parotid glands can give rise to a wide variety of benign and malignant neoplasm because of their mixed array of cells and tissues. Pleomorphic adenoma is considered as the most common benign salivary gland neoplasm, comprising about 50%-74% of all parotid tumours. It is followed by Warthin's tumour, which accounts for about 4-14% of all parotid tumours. Approximately 90% of parotid tumours occur in the superficial lobe while the remaining 10% occur in the deep lobe, lying under to the facial nerve. If there is clinical evidence of bilateral parotid swelling, Warthin's tumour should be suspected, being the most frequent synchronous or metachronous bilateral histological type.

Clinical history and physical exam is reported as giving adequate information to focus on a feasible diagnosis. If patient history and clinical exam only are inadequate, further investigation by Ultrasound (US), US-guided Fine-Needle Aspiration Cytology (FNAC), Magnetic Resonance Imaging (MRI) or by Computed Tomography (CT) might be required

Anyway, in our experience, only surgery can give histological certainty of tumour nature and prevents long term malignant degeneration or lump infection or size-dependent facial nerve damage risk. Conservative parotidectomy is the most widely accepted surgical treatment for parotid tumours removal.

MATERIALS AND METHODS

collected 30 cases retrospectively from **august 2018 – august 2019** (span 1year) in ANDHRA MEDICAL COLLEGE Visakhapatnam, out of which 11 males and 19 females and patients ages ranged from 17 years to 72 years (median age: 44 years). Definitive tumour presence and histotype was stated by histology in all cases. Data from medical records and archive materials were retrospectively reviewed focusing on patient's age, sex .Data from FNAC results were collected and cytological results were compared with those of definitive histology to calculate the accuracy of this diagnostic procedure. Short term follow-up and long-term outcome data were acquired either from comprehensive Department database or by patient consultation.

Number of cases	Male	Female
30	11	19

RESULTS :

Out of 30 patients included in study
Overall male to female ratio 1:1.7 (male-11, female-19)
21 cases pleomorphic adenoma(70%)
2 cases warthin`s tumour(6.6%)
2 cases basal cell adenoma(6.6%)
1 case as chronic sialadenitis(3.3%)

4 cases FNAC was pleomorphic adenoma, HPE of sent specimen came as mucoepidermoid carcinoma (13.3%)

Age (years)	Male	Female	Total	Percentage (%)
1 - 10	0	0	0	0 %
11 - 20	01	0	01	3.33 %
21 - 30	03	04	07	23.33 %
31 - 40	01	07	08	26.33 %
41 - 50	05	01	06	20 %
51 - 60	02	03	05	16.66 %
61 - 70	0	02	02	6.66 %
71- 80	0	01	01	3.33 %

Histotype	FNAC	Percentage	Specimen	Percentage
Pleomorphic adenoma	25	83.3 %	21	70 %
Warthin`s tumour	2	6.6 %	2	6.6 %
Chronic sialadenitis	2	6.6 %	2	6.6 %
Basal cell adenoma	1	3.3 %	1	3.3 %
Mucoepidermoid carcinoma	0	0 %	4	13.3 %

DISCUSSION

In our series, pleomorphic adenoma was the most frequent histological type followed by Warthin's tumour. The average age of benign parotid tumours onset showed an interesting bimodal peak of incidence. The first peak resulted between the third and fourth decade of life, which is coincident with the median age of onset for pleomorphic adenoma. The second peak, congruent with the median age of onset for Warthin's tumour, stands between the fifth and sixth decade of life. Our series even showed that Warthin's tumour is more prevalent in male patients (76.8%). The median interval observed between diagnosis and surgery for all benign epithelial parotid neoplasm accounted for 36 months. This means that more care should be given to immediate surgery even for benign parotid masses by general practitioners. The choice of the approach MRI is the best diagnostic tool to determine exact parotid gland tumour localization and the presence of macroscopic multicentricity. Pre-operative FNAC showed an high sensitivity for diagnosis of malignancy but a low one for histotype diagnosis. FNAC thus, is to be used by clinicians to avoid misdiagnosis in the presence of a parotid swelling, especially if it's suspected to be a malignant tumour; but its preoperative use is not very useful, if we want only to know the specific histological type of a benign or a malignant tumour. In our case load we observed an average percentage of local recurrence rate of about 3.33% of the total amount of patients surgically treated for a primary benign epithelial parotid neoplasm. We observed recurrences only by pleomorphic adenomas and an high percentage of these were mucoepidermoid carcinoma in the specimen histopathological report.

The diagnosis of parotid gland neoplasm must be considered in any patient presenting with a lump near the mandible. Pleomorphic adenoma and Warthin's tumour are the most frequent histological types.

Finally, even if a benign parotid tumour has been detected by both imaging and FNAC or biopsy, appropriate surgery is always recommended more than clinical observation. Clinical and radiological findings might result in some cases discordant with definitive diagnosis due to the variable clinical presentation and the histological heterogeneity of parotid tumours. Only surgery can give histological certainty of benignity and definitively prevents long term malignant degeneration or lump infection or risk of size-dependent surgical complications

CONCLUSIONS :

The diagnosis of parotid gland neoplasm must be considered in any patient presenting with a lump near the mandible. Pleomorphic adenoma and Warthin's tumour are the most frequent histological types.

FNAC though cheap and safe but its diagnostic accuracy was 86.6%, can`t lead alone histological diagnosis, histopathological examination remained to be value for diagnostic conformation of parotid gland mass.

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