



SURGICAL MODALITIES OF PAROTID LESION AND CONCORDANCE BETWEEN FNAC AND HISTOPATHOLOGY IN A TERTIARY HEALTH CENTER, RAJENDRA INSTITUTE OF MEDICAL SCIENCES (RIMS), RANCHI

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ABSTRACT

Lesions of salivary gland are not that uncommon and malignancy of salivary gland constitute 0.5 % of all malignancies. The concordance between fine needle aspiration cytology (FNAC) and histopathology varies with its clinical and biological behaviour. Most salivary gland lesions involve the parotid and more than half are benign. We here present cases of parotid lesion of our institute with surgical modalities and concordance between FNAC and histopathology.

Summary : We present 84 cases of parotid lesion, pleomorphic adenoma being most common benign tumour and adenoid cystic carcinoma most common malignant tumour as diagnosed on FNAC and histopathology. Superficial parotidectomy was performed in majority of cases with wound infection and dehiscence being most common post surgical complication.

KEYWORDS : Parotid lesions, Surgical modalities, FNAC, Histopathology

INTRODUCTION

Lesions of salivary gland are not that uncommon and malignancy of salivary gland constitute 0.5 % of all malignancies. The worldwide incidence of tumours of salivary gland tumor is 0.4–13.5 cases/ 100,000 and 0.4–2.6/ 100,000 are malignant ones.¹ The concordance between FNAC and histopathology varies with its clinical and biological behaviour. Proper diagnosis on FNA is challenging. Most salivary gland lesions involve the parotid and more than half are benign. The main stay of treatment is surgery with or without adjuvant therapy. The 5-year disease free state (all stages) is 65% for 5 years in adults.^{2,3} With increasing age there is decrease in survival.⁴

MATERIALS AND METHODS

The study was conducted for parotid lesions in our institute between June 2018 to September 2019, focusing of surgical modalities and FNA and histological concordance. Surgery with or without adjuvant therapy was decided after histopathology report. The data regarding of parotid lesion was taken from head and neck services database. Patients clinical details, FNA details, surgeries performed were retrieved from this database. The final histopathology, adjuvant treatment, recurrences in follow up cases was recorded.

RESULTS

The cases of salivary gland lesion registered were 215, out of which 118 were treated at our institute. Out of these 118 cases 84 were present in parotid region.

The average age of the patients in the study ranged from 10-80 years with male preponderance. These patients had no comorbidities. Out of 84 cases 58 were men (69 %) and 26 were females (31 %). (Table 1 and 2) All parotid lesion were subjected to fine needle cytology.

The clinical presentation in majority of cases was parotid swelling (84%) followed by pain, deep lobe involvement and cervical lymphadenopathy (table 3)

FNA was performed in all cases and shows overall diagnostic accuracy of more than 85 %. Benign lesions outnumbered the malignant ones. Total benign lesions are 64 (76 %) while malignant were 20 in number (24 %). On FNAC the largest

number of benign cases were that of pleomorphic adenoma (56 %) followed by benign cystic lesions / sialadenitis (20%) and granulomatous lesion was (9 %) and reactive lymphadenitis (7%) (Table 4A)

The total malignant lesion was 24 %. Out of which adenoid cystic carcinoma 8 cases was the highest followed by mucoepidermoid carcinoma 5 cases and poorly differentiated carcinoma 5 cases and acinic cell carcinoma 2 cases, (Table 4B) later concordance and discordance was confirmed on histopathology.

While surgery was performed 60 cases out of 84 cases. As the cases of granulomatous lesions were treated by anti-tuberculous drugs as which were confirmed by CBNAAT, AFB or RT-PCR. Cases of reactive lymphadenitis were given antibiotics and were in follow up.

Superficial parotidectomy was performed in 40 cases (67 %) followed by total parotidectomy 6 cases (10 %) and extended radical parotidectomy and extended radical parotidectomy with selective neck dissection with 4 cases respectively (7% each) and radical parotidectomy and extended radical parotidectomy with selective neck dissection and radiotherapy in 3 cases each (5% each). (Table 5)

Post surgical complications ranged in benign and malignant conditions were found which were wound infection and dehiscence 06 cases in malignant lesion to facial paresis temporary or permanent to other complication as shown in table no 6.

The histological concordance with FNAC was seen in 55 out of 60 surgical cases (92 %). The discordance was seen in 5 cases which were reported as carcinoma ex-pleomorphic adenoma and salivary gland carcinoma as diagnosed as poorly differentiated on FNA. (Table 7).

Table 1

Male	Female
58 (69 %)	26 (31 %)

Table 2

Symptoms	No. of cases
Swelling	75

Pain	03
Cervical swelling	03
Deep lobe involvement	03

Table 3

Age (in yrs)	No. of cases
10-19	05
20-39	53
40-59	20
60-79	06

Table 4 A

Benign	No. of cases
Pleomorphic adenoma	36
Benign cystic lesion/sialadenitis	13
Granulomatous lesion	06
Reactive LN	05
Warthin's tumour	04

Table 4 B

Malignant	No. of cases
Adenoid cystic carcinoma	08
Mucoepidermoid carcinoma	05
Poorly differentiated carcinoma	05
Acinar cystic carcinoma	02

Table 5

Surgery	No. of cases
Superficial parotidectomy	40
Total parotidectomy	06
Extended Radical parotidectomy	04
Extended Radical parotidectomy with selective neck dissection	04
Radical parotidectomy	03
Extended Radical parotidectomy with selective neck dissection + radiotherapy	03

Table 6

Post surgical complications	Benign	Malignant
Wound infection and dehiscence	00	06
Facial paresis temporary	03	00
Facial paresis permanent	00	03
Parotid skin necrosis	00	01
Hypothesis of ear lobe	00	02

Table 7

FNAC	Histopathology
Pleomorphic adenoma	Pleomorphic adenoma
Warthin's tumour	Warthin's tumour
Adenoid cystic carcinoma	Adenoid cystic carcinoma
Mucoepidermoid carcinoma	Mucoepidermoid carcinoma
Poorly differentiated carcinoma	Carcinoma ex-pleomorphic adenoma (03 cases) and salivary gland carcinoma (02 cases)
Acinic cell carcinoma	Acinic cell carcinoma

DISCUSSION

The treatment for salivary gland tumors is surgery in almost all cases. Surgery followed by radiotherapy is advised in some of the malignant neoplasms. Tumours of salivary gland tumors are seen in all age groups, but the third and fourth decades with female preponderance.^{2,3} But in our study parotid lesion ranged from second to fourth decades with male preponderance. The Parotid gland involvement (80 %) is seen in majority of cases followed by submandibular gland (11%) and rarely the sublingual gland (<1%)^{3,5} which was in concordant with our case series. Benign tumors are more common (54%–79%) than malignant one (21%–46%).³ Similar

findings are seen our case series where benign tumours are 76 % and malignant tumours are 24 %. In general, the most common benign tumour is pleomorphic adenoma and mucoepidermoid carcinoma being the most malignant tumor.^{1,5,6,7}

While in our series the most common benign tumour matches with that of this series, as pleomorphic adenoma being most common. While in our series adenoid cystic carcinoma is more common as compared to mucoepidermoid carcinoma.

FNA was the primary investigation done in all cases of our palpable parotid lesions. In malignant ones computed tomography (CT)/magnetic resonance imaging (MRI) is done. FNA helped to reach to a conclusion in almost all cases atleast classifying them in benign and malignant lesions and further helped to plan the modality of treatment which is surgery in most of the cases. CT / MRI is suggested in all malignant cases or in deep lobe lesions. MRI is helpful in showing the tumour interface, especially when tumour is in close proximity to facial nerve.^{8,9}

In this series, surgery was performed in 60 patients and seven patients needed neck dissection after surgery. In this series superficial parotidectomy was performed in most of the cases which was in concordance with other case series followed by total parotidectomy¹⁰

The commonest complication is wound infection with dehiscence in our case seen in malignant tumours followed by facial nerve palsy, skin necrosis and hypoesthesia of ear lobes. While in other studies it was facial nerve palsy, hypoesthesia of auricular nerve, hematoma, infection, skin flap necrosis and parotid fistula.^{12,13,14}

Three patients were given radiotherapy in our case series. The 1-year relative survival rate in literature was 65%^{2,3} In our series, the estimated 1-year survival was 75%.

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