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A PROSPECTIVE STUDY OF BENIGN TUMORS OF THE PAROTID GLAND IN A TERTIARY CARE HOSPITAL

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Abstract

Introduction: Salivary gland neoplasms constitute 3% of Head and Neck neoplasms with mean age around 45 years. Benign salivary gland tumours are more frequently encountered in females whereas malignant tumours are more frequently encountered in males. The most frequent site of salivary neoplasm is parotid gland. Most of the parotid tumours are benign (80%) and the most common benign tumour is pleomorphic adenoma followed by Warthin's tumour.

Materials and Methods: This is clinico histopathological study of benign tumours of parotid and its surgical management by parotidectomy and to evaluate these procedures that is extracapsular dissection, partial superficial parotidectomy, superficial parotidectomy, and complete parotidectomy and to study their effects and cause of failure and nature of complications. It is a prospective observational study conducted at Central Hospital, Ramgarh, CCL, Jharkhand. Clinicopathologic data of parotid tumours were reviewed including age, sex, symptoms, duration of symptoms, results of histopathologic tumour examination, surgical procedures and complications.

Results: In this study 32 (64%) patients were female and 18 (36%) were males. Females to Male ratio was found to be 1.77:1. The age incidence of the patients in the study group ranged from 18-68 years. Most of the patients in this series were in the age group of 41-60. The mean age was 38.4 Years. In this study, 30 (60%) patients were having tumour on right side and 20 (40%) patients were having tumour on left side. Right to let ratio was found to be 3.2. In this study, 48 (96%) patients had symptoms of duration 0.1-5 years. 2 patients (4%) had symptoms for more than 5 years duration. Skin fixity was found only in 2 patients (4%). Deep lobe involvement was found in 6 Patients (12%) and no patients were diagnosed with facial nerve involvement 42 patients (84%) were found with superficial lobe involvement.

Conclusion: Most of the benign tumours exhibit a slow growth pattern. FNAC is a good tool in diagnosis of benign parotid gland tumours. Surgery is the main stay of treatment of benign parotid tumours and superficial parotidectomy is the most commonly performed surgery. Total Parotidectomy is needed for benign tumours with deep lobe involvement. The main complications of surgery were haematoma, wound infection, facial nerve palsy (temporary).

Key Words: Salivary gland neoplasms, parotid gland, superficial lobe involvement.

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INTRODUCTION

Salivary gland neoplasms constitute 3% of Head and Neck neoplasms with mean age around 45 years.[1] Benign salivary gland tumours are more frequently encountered in females whereas malignant tumours are more frequently encountered in males. The most frequent site of salivary neoplasm is parotid gland. Most of the parotid tumours are benign (80%) and the most common benign tumour is pleomorphic adenoma followed by Warthin's tumour. [2]

The most common malignant tumour is mucoepidermoid carcinoma followed by adenoid cystic carcinoma. Salivary gland neoplasms have diverse histopathology and variable biological course.[3] Parotid gland has an intimate anatomical relationship with the facial nerve, presence of intraparotid lymph nodes and a deep lobe. The consequence of sacrificing the facial nerve may at times constitute a deterrent to the performance of adequate surgery for tumour arising from the Parotid gland. Moreover, parotid gland cancers have a variable biological course and do not follow the general familial survival pattern of squamous cell carcinomas of the head and neck.[4]

The Parotid gland benign tumours are less benign and the malignant tumours are less malignant as compared to benign and malignant tumours of the head and neck tumours. Because of this variation, the success of treatment and ultimate prognosis can be expressed, not in 5 years or 10 years but rather in 20 years.[5]

MATERIALS AND METHODS

This is clinico histopathological study of benign tumours of parotid and its surgical management by parotidectomy and to evaluate these procedures that is extracapsular dissection, partial superficial parotidectomy, superficial parotidectomy, and complete parotidectomy and to study their effects and cause of failure and nature of complications. It is a prospective observational study conducted at Central Hospital, Ramgarh, CCL, Jharkhand. Clinicopathologic data of parotid tumours were reviewed including age, sex, symptoms, duration of symptoms, results of histopathologic tumour examination, surgical procedures and complications.

All patients had FNAC, ultrasonography, computed tomography (CT) Scans performed before the operation to assess the extent of the lesion and help in planning treatment.

The type of Surgery performed depended on the pre-operative diagnosis based on FNAC and radiological scans as well as the clinical presentation of the parotid tumour. Partial superficial parotidectomy was performed if a tumour located in the parotid tail. Superficial parotidectomy was performed if a tumour was located in the superficial lobe, and deep lobe parotidectomy was performed if it was in the deep lobe.

Tumour enucleation was performed which is less invasive and the tumour is removed carefully without exposing the facial nerve. Drainage was performed and maintained by aspiration. All cases of benign parotid tumours were confirmed histopathologically. The complications of

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postoperative facial palsy were evaluated by the House Brackmann grade. Only 2 patients had temporary facial palsy. The study group consisted of 25 Patients, aged between 18 to 68 years with the average of 38.4 Years. Among them 16 were females and 9 males.

Inclusion Criteria

The Criteria for selection for the study group included patient with well defined, slow growing, painless pre-auricular mass. Included patients were benign tumours of the superficial and deep lobes of the parotid gland.

Exclusion Criteria

Malignant and suspicious tumours proved by the fine needle aspiration cytology (FNAC), facial nerve palsy, tumours larger than six centimeter in diameter, and scarring in or irradiation to the parotid area.

Of the patients that underwent surgery, 15 on the right side and 10 on the left side. One Patient underwent revision superficial parotidectomy for previous failed surgery. All patients underwent surgery under general anaesthesia. All patients were followed up to period ranging between 1 to 12 months, the mean period of follow up being 6 months.

Modified Blair incision (Lazy-S Incision): This is placed in pre-auricular and cervical skin creases. Raise superficial cervicofacial flap to the anterior border of parotic mass or of the parotid gland in the plane between the SMAS and the parotid fascia with a scalpel or diathermy. The assistant must monitor the face for muscle contraction to avoid facial nerve injury. Insert a traction suture in the subcutaneous tissue of the ear lobule as well as securing the anterior based skin flap to the drapes.

Complications of the Procedure

Potential complications of parotidectomy include haemorrhage, hematoma, infection, facial nerve injury. Frey syndrome, salivary leakage, ear numbness, facial asymmetry, flap necrosis and tumour recurrence.

RESULTS

This is prospective observation study of management of benign parotid tumours done in the period from January 2022 to December 2022 at Central Hospital, Ramgarh, CCL, Jharkhand, in which, 50 Patients were taken up for study.

Gender	No of patients	Percentage
Female	32	64
Male	18	36
Total	50	100

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Table 1: Gender distribution

In this study 32 (64%) patients were female and 18 (36%) were males. Females to Male ratio was found to be 1.77:1.

Age in years	No of patients	Percentage
0-20	6	12
21-40	16	32
41-60	26	52
Above 60	2	4
Total	50	100

Table 2: Age distribution

The age incidence of the patients in the study group ranged from 18-68 years. Most of the patients in this series were in the age group of 41-60. The mean age was 38.4 Years.

Side of the surgery	No of patients	Percentage
Right	30	60
Left	20	40
Total	50	100

Table 3: Side of the surgery

In this study, 30 (60%) patients were having tumour on right side and 20 (40%) patients were having tumour on left side. Right to let ratio was found to be 3.2.

Duration of surgery	No of patients
0-0.5	10
0.5-1	14
1-2	16
2-3	6
3-5	2
5-8	2

Table 4: Duration of symptoms

In this study, 48 (96%) patients had symptoms of duration 0.1-5 years. 2 patients (4%) had symptoms for more than 5 years duration.

Signs	No of patients	Percentage
Deep Lobe Involvement	6	12
Facial Nerve Involvement	0	0

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Superficial Lobe Involvement	42	84
Recurrent Superficial Lobe Involvement with skin Fixity	2	4

Table 5: Clinical findings

Skin fixity was found only in 2 patient (4%). Deep lobe involvement was found in 6 Patients (12%) and no patients were diagnosed with facial nerve involvement 42 patients (84%) were found with superficial lobe involvement.

FNAC +VE NUMBER	%	FNAC -VE NUMBER	%
42	84	8	16

Table 6: Efficacy of FNAC in Diagnosis benign Parotid Tumours

Procedure	No. of Patients	%
PSP	20	40
SP	22	44
SDP	6	12
TP	0	0
E	2	4

Table 7: Type of surgery

Superficial Parotidectomy (SP) was the most common surgery performed (44%) and second most common surgery performed was Partial Superficial Parotidectomy (PSP) (40%).

Procedure	No of patients	Percentage
PSP	20	40
SP	22	44
SDP	6	12
TP	0	0
E	2	4

Table 8: Histopathological types

Tumour	No of patients	Percentage
Pleomorphic Adenoma	44	88
Retention Cyst	2	4
Warthin's Tumour	0	0
Basal Cell Adenoma	0	0
Keratin Cyst	2	4
Lymphadenoma	2	4

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Table 9: Complications of Surgery

Temporary Facial nerve palsy was observed in 4 Patients (8%) and non-permanent, facial nerve palsy was found. 4 patients (8%) with Hematoma, 2 Patients (4%) with wound infection and one with Ear Numbness (4%) was found.

DISCUSSION

The age incidence of the patients in the study group ranged from 18-68 years. Most of the patients in this series were in the age group 41-60. The mean age was 38.4 Years.

In this study, 32(60%) patients were having tumour on right side and 20 (40%) patients were having tumour on left side. Right to left ration was found to be 3.2.[6]

In this Study 48 (96%) patients had symptoms of duration 0.1 -5 Years. One Patient (4%) had symptoms for more than 5 Years duration.[7]

Skin Fixity was found in 2 recurrent tumour patients (4%). Deep lobe involvement was found in 6 patients (12%) and no patients was diagnosed with facial nerve involvement 42 patients (64%) were found with superficial lobe involvement.

Superficial Parotidectomy was the most common surgery performed (44%) and second most common surgery performed was Partial Superficial Parotidectomy (40%). Deep Lobe Parotidectomy was done for 12% of Patients.[8]

Temporary facial nerve palsy was observed in 4 patients (8%) of Grade II (House Brackmann Scale) and no permanent facial nerve palsy was found. 4 Patients (8%) with Hematoma, 2 Patients (4%) with wound infection and two with Ear Numbness (4%) was found.

In FNAC exact histological correlation was found in 84% of all cases. Eight FNAC (16%) report was given as Parotid Cyst. HPE turned out to be pleomorphic adenoma. This shows FNAC is a good preoperative diagnostic tool in diagnosing benign parotid gland tumours.[9]

Pleomorphic adenoma was the most common tumour encountered in the study (88%). 4% of patients had Retention Cyst and 4% with Keratin Cyst and 4% with Lymphadenoma.[10]

Proper surgical techniques should be adopted for facial nerve preservation and to avoid recurrence.

CONCLUSION

Most of the benign tumours exhibit a slow growth pattern. FNAC is a good tool in diagnosis of benign parotid gland tumours. Surgery is the main stay of treatment of benign parotid tumours and superficial parotidectomy is the most commonly performed surgery. Total Parotidectomy is

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needed for benign tumours with deep lobe involvement. The main complications of surgery were haematoma, wound infection, facial nerve palsy (temporary).

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