

## A STUDY OF BENIGN TUMOURS OF THE PAROTID GLAND

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### ABSTRACT

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#### BACKGROUND

The Salivary glands are located around the mouth. They produce saliva, which moistens food to help chewing and swallowing. There are three pairs of major Salivary Glands. The largest are the Parotid Glands and are located in each cheek over the jaw in front of the ears. The Parotid Gland is the most common site for Salivary Gland tumours. To determine the incidence, risk factors, clinical presentation and management of benign tumours of parotid gland.

#### MATERIALS AND METHODS

The study group consisted of 25 patients aged between 18 to 68 years coming to Department of E.N.T. at Government ENT Hospital & Osmania Medical College from September 2015 to September 2017.

All patients had relevant investigation reports like FNAC, USG and CT scans. Superficial Parotidectomy was performed if the tumour was in superficial lobe and deep lobe Parotidectomy if the tumour was in deep lobe.

Patients having FNAC Suggestive of Malignant Tumour, Facial Palsy and Tumour more than 6 cms were excluded from the study.

#### RESULTS

Age Incidence of Parotid Tumour was 38.4 Years in which 16 were Female and 9 were Males. Right Side Tumours were 15 (60%) and left 10 (40%), the Symptom duration was 1-5 Years, deep lobe involvement was seen in 8 patients (12%). 21 Patients (84%) were found with superficial lobe involvement, most common Surgery performed was superficial Parotidectomy and Temporary Facial Palsy was observed in 2 Patients. Pleomorphic adenoma was the most common Tumour found on Histopathological Examination.

#### 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).

#### KEYWORDS

Superficial Parotidectomy, Facial Nerve Palsy, Parotid Tumours.

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#### BACKGROUND

The Salivary glands are located around the mouth. They produce saliva, which moistens food to help chewing and swallowing. There are three pairs of major Salivary Glands. The largest are the Parotid Glands and are located in each cheek over the jaw in front of the ears. The Parotid Gland is

the most common site for Salivary Gland tumours. 70% of Salivary Gland tumours are in Parotid Gland and 75% of Parotid Gland tumours are benign. 85% among them are pleomorphic adenomas.

The Primary duty of the Surgeon is to identify and preserve the facial nerve trunk and its branches to prevent postoperative facial palsy. Accurate pre-operative diagnosis by evaluation of a parotid mass by FNAC and imaging studies (Ultrasonography (USG). Computed Tomography (CT) is critical for surgical planning and appropriate management for adequate tumour removal and preventing complications. Despite the myriad of histologies, surgical excision via parotidectomy is the most common treatment. Parotidectomy for benign tumours is undergoing constant evaluation, the potential for recurrence and malignant transformation of pleomorphic adenomas creates

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complexities that have forced head and neck surgeons to undertake more comprehensive parotid surgery with facial nerve dissection. This systematic approach carries inherent morbidities, including facial nerve injury, Frey's syndrome and recurrence.

Superficial Parotidectomy is the most common procedure done for benign parotid pathology. Superficial parotidectomy is also known as partial parotidectomy and is especially useful for lesions in the lower pole of the Gland.

### Aims and Objectives

- To determine the incidence and risk factors in population, gender and age predilection.
- To diagnose the type and site of tumour (superficial / deep).
- To analyse clinical presentations, diagnostic methods (FNAC, U/S, CT Scan), surgical treatment modalities and complications of patients operated for a benign tumour of parotid gland and analysed by histopathological examination to confirm the tumour.
- To assess prognosis and
- To assess incidence of facial nerve palsy, recurrence, risk of malignancy etc.

Isolated reports of parotid surgery are present in the early literature and it is clear that it was a feared operative procedure.

Adequate classification by Ahlbom<sup>1</sup> was published in 1935. Pleomorphic adenoma also posed a diagnostic problem due to their variable appearance (Cystic and/or cartilaginous components). They were considered hamartomas (Developmental lesions) and not neoplasms. Consequently, surgeons at that time treated these lumps by enucleation. It is in this period 1920 - 1960s that the pleomorphic adenoma gained its reputation for recurrence. The scope of practice was challenged in that most of the surgery was done under local anaesthetic by peripheral nerve blocks.

By the 1920s, there was a conscious effort to spare the facial nerve, and the common techniques was to make an incision through the skin directly over the lesion, then scoop out the contents with a spoon or finger, sometimes packing the capsule with a mixture of mercury and hydrochloric acid in alcohol.<sup>2</sup> The indolent nature of pleomorphic adenoma meant that recurrent disease was slow to declare itself, and for a period was not apparent to the surgical community. It was McFarland and others,<sup>3,4</sup> who drew attention to the high rates (\*45%) of recurrence with enucleation and the benign histology of these tumours stating "The complacency of surgeons is not infrequently disturbed with the return of these patients with the recurrence of the tumour and that of the pathologist by the continued good health of some patients condemned to death upon the histopathological evidence of a supported malignancy". With the advent of radium seeds, the new approach was to continue enucleating the tumour core and to lay radium seeds in the wound.<sup>1,5</sup> In 1907 Carwardine<sup>6</sup> described how to preserve the facial nerve while removing the parotid gland. Sistrunk<sup>2</sup>

in 1921 and Adson<sup>7</sup> in 1923 refined this technique, using a pre-auricular incision and wide dissection, a method that was further developed by Hamilton Bailey<sup>8</sup> and Hayes Martin,<sup>9</sup> who described anterograde dissection of the facial nerve in 1952. The concept took time to be accepted but it gained scientific credibility in 1967 with the publication of a seminal paper published by Patey and Thackeray.<sup>10</sup> They undertook a histological evaluation of benign parotid tumours and reported both focal infiltration and pseudopodia projecting through the capsule. It was accepted as axiomatic that these tumour remnants would be left behind by close dissection around the tumour, thereby providing histological evidence that would explain why pleomorphic adenomas were at risk of recurrence. The fact that the appearance of focal infiltration was due to tangential cutting of tumour projections was overlooked. Patey whose name is mainly associated with mastectomy, went on to set up the Cancer Research Campaign Salivary Gland panel in 1965. AS a result of his pathological findings, with limited clinical correlation, he and his co-worker. Thackeray, recommended that the best treatment for most forms of parotid tumour was some form of conservative parotidectomy. The net result of this work was a swing by surgeons to more expansive procedure in the form of nerve dissection (superficial and total parotidectomy) to give these tumours a wide berth during surgery and leave a significant cuff of normal tissue around their surface. The change in surgical policy coincided with a reduction in tumour recurrence.

The perceived link between pleomorphic adenomas and incomplete capsule and recurrence was established. At the time, this debate was evolving in the 1940-1960s, a surgeon at the Christie Hospital in Manchester (Nicholson) was of the opinion that recurrence was not due to the biology of the tumour but the fact that surgeons approached these lumps by incision directly over their surface. This form of exposure led to tumour spillage. He advocated the use of a preauricular skin flap to give access to the tumour but then he proceeded to remove the lump by carefully dissecting through the parotid tissue at 2-3 mm peripheral to the tumour capsule. He was not alone, as Byars<sup>11</sup> in Missouri was practicing the exact same technique, making no effort to enucleate the tumour at the level of its false capsule, but advocating the taking of a thin layer adjacent normal gland. Byars recognized that the tumour is common closely associated with the facial nerve making wide resection possible only if the facial nerve is simultaneously separated carefully.

### 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 Dept. of ENT at Govt. E.N.T. Hospital, Osmania Medical College from September 2015 to September 2017.

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 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.

### Parotidectomy

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.

### Preoperative Preparation

#### 1. Evaluation

- a. Fine needle aspiration cytology (FNAC)
  - i. Ultrasonography
  - ii. CT

#### 2. Preoperative Consent

- Scar: Usually very good healing except over the mastoid where some scarring may occur.

- Anaesthesia in the greater auricular distribution: Skin of inferior part of auricle, and overlying the angle of the mandible.
- Facial nerve weakness: Temporary weakness common (<50%), permanent weakness rare.
- Facial Contour: Loss of Parotid tissue leads to a more defined angle of mandible, and deepening of retro mandibular sulcus.
- Prominence of auricle: This is probably due to loss of innervation of the post auricular muscles and preauricular scarring.

**Frey's Syndrome (Gustatory Sweating):** Although uncommon, it only very rarely is bad enough to require treatment with Botox Injection.

### Nursing Consideration

1. Room Setup
2. Instruments List:
  - a. Cutting Instruments and dissecting: scalpels, scissors, saws.
  - b. Grasping or holding instruments: smooth (anatomical) and toothed (Surgical) forceps, towel clamps, vascular clamps and organ holders.
  - c. Haemostatic instruments: Kocher's and Billroth's clamps, haemostatic "Mosquito" forceps, atraumatic haemostatic forceps, Deschamps needle. Hopfner Haemostatic forceps.<sup>12</sup>
  - d. Retractors: Farabef's C-shaped laminar hook, blunt-toothed hook, sharp toothed hook, grooved probe, tamp forceps.
  - e. Tissue unifying instruments and materials: needle holders, surgical needles, staplers, clips, adhesive tapes.

### 3. Special

- a. Hemovac suction drain, open suction drains
- b. Harmonic scalpel.

### 4. Medications: (specific to nursing)

- a. Antibiotic ointment
- b. 1:100,000 epinephrine injection (no lidocaine) for skin incision

### 5. Prep and Drape

- a. Standard Pre, 10% povidone Iodine, 5% povidone iodine periorbital areas
- b. Drape
  - i. Head Drape
  - ii. Place towels so the ear, mastoid tips and sternocleidomastoid (SCM) muscle are well exposed, with a towel placed from midline forehead to mentum to expose ipsilateral half of the face.
  - iii. Place steridrape over face to allow inspection of the corner of mouth and eye through the drape.
  - iv. Split Sheet.

## 6. Drains and Dressings

- a. Closed / Open suction drain management
- b. Pressure Dressing is used with a Penrose drain, including fluffs and burn netting around neck Adaptic, large 3 x 8 inch Fluffs, sterile, 5 pack x 2 Kling, 4 Inch.

## 7. Special Considerations

- a. Nerve integrity monitoring system has become more routine and is most useful for recurrent tumours or difficult dissections.
- b. All muscle relaxants should be reversed before preparing and draping.
- c. Do not use lidocaine, it may anesthetize the nerve.
- d. Shaw haemostatic scalpel and controller are available place in metal basin with wet towels for fire prevention).

## Anaesthetic Consideration

### 1. Induction

- a. Antibiotic begun with placement of the IV. Although the case is usually clean, the interruption and retention of Salivary Tissue may create an environment for bacterial sialadenitis to develop. As a result, we leave patients on antibiotics for 5 to 7 days (converted to oral antibiotics once feeding is begun).
- b. Although not necessary for all cases, nasotracheal intubation through the nostril contralateral to the tumour may occasionally be preferred in selected cases. Maintenance of the airways by this method permits complete closure of mouth with approximation of the teeth potentially allowing better access to deep lobe tumours that have parapharyngeal extension.
- c. Do not paralyze patient (we may employ a facial nerve stimulator), Short acting muscle relaxation for intubation only.
- d. Infiltrate with vasoconstrictor along planned skin incision, so as to reduce thermal injury to skin from electro cautery to skin vessels.

### 2. Positioning

- a. Hyperextend the head, and turn to opposite side.
- b. Table turned 1800 (head away from anaesthesiologist) for cases requiring involved dissection (notify anaesthesia preoperative of need for extra-long tubing). May turn just past 900 for tail of parotid lesions and simple dissections.
- c. Head of Bed is elevated to diminish bleeding.
- d. Keep corner of eye and mouth exposed so as to be able to see facial movement when facial nerve mechanically or electrically stimulated.

## Operative Procedure

**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 parotid 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 lobe as well as securing the anterior based skin flap to the drapes.

- Skeletonise the anterior border of sternocleidomastoid muscle
- Divide the external jugular vein.
- Divide the greater auricular nerve as it crosses sternocleidomastoid muscle, posterior to the external jugular vein. An attempt can be made to preserve the posterior branch of the nerve to retain sensation of the skin of the Auricle.
- Identify and skeletonise the posterior belly of the digastric muscle. Do not dissect cephalad of the muscles one may injure the facial nerve.
- The facial nerve exits and stylomastoid foramen, and enters the parotid gland. Although the branching pattern does vary from patient to patient, the trunk generally divides at the pes anserinus into upper and lower divisions that subsequently branch into temporal (Frontal), zygomatic, buccal, marginal mandibular and cervical branches that innervate the muscles of facial expression. Small branches to the posterior belly of digastric, stylohyoid, and auricular muscles also arise from the trunk.
- Skeletonise the cartilage of the external auditory canal upto the tragal pointer. This can be done quite quickly with electrocautery dissection as the facial nerve exists the stylomastoid foramen 1 cm deep to the tragal pointer.
- Skeletonise the mastoid tip to the depth of the tragal pointer.
- Identify all the following landmarks for the facial nerve.
  - Tragal Pointer (nerve 1 cm deep and inferior)
  - Tympanic ring
  - Anterior aspect of mastoid bone
  - Tympanomastoid suture line (leads directly to stylomastoid foramen)
  - Posterior belly of digastric muscle (Facial nerve at same depth, just above muscle)
  - Palpate the styloid process (Facial nerve in angle between styloid and digastric and crosses styloid more anteriorly).
- Locate the facial nerve trunk by blunt dissection with a fine haemostat.
- Use fine curved blunt tipped scissors for the remainder of the nerve dissection. Tunnel and spread the tissues overlying the facial nerve and its branches, and divide the parotid tissue overlying the nerve. It is important to dissect directly on the nerve so as to not to lose sight of it. Never divide parotid tissue beyond exposed facial nerve. Wearing Loupes e.g. with 2.5X magnification assists with the dissection and enables one to better distinguish between blood vessels and nerves. Employ bipolar diathermy and fine silk ties for haemostasis.

- Dissect along the trunk to pes anserinus. Dissect back towards the stylomastoid foramen to exclude early branching from the trunk. Divide the Parotid fascia and parotid tissue superiorly and inferiorly to release the parotid posteriorly and to permit anterior mobilization of the gland / tumour.
- The nerve traverses the parotid gland, with about 2/3 of the gland substance being superficial to the nerve. As parotid dissection generally is directed along the facial nerve, the nerve in effect divides the parotid from a surgical perspective into superficial and deep lobes, although there is no natural soft tissue dissection plane that separates the two lobes.<sup>13</sup>
- The midfacial nerve branches have multiple cross innervations, however the frontal and marginal mandibular branches do not have cross innervations and injury to these branches is followed by Paralysis of the forehead and depressors of the lower lip. Therefore, unlike the temporal and marginal mandibular nerves, selected midfacial branches may be sacrificed without loss of facial function.
- Dissect along and strip the superficial lobe off the branches of facial nerve. Unless a complete superficial parotidectomy is done, only the branches close to the mass are dissected and exposed.
- Identify the retro mandibular vein as it crosses medial to the facial nerve.
- If removing the superior part of the gland, identify / ligate the superficial temporal artery superiorly, just anterior to auricle.
- If dissecting to the anterior border of the gland, identify and transect the parotid duct.
- Remove the tumour with a cuff of the superficial parotid lobe.
- Parotid dissection for deep lobe tumours.
- The Principles of resecting deep lobe tumours are to:
- Identify dissect and free up the facial nerve from the underlying deep lobe or tumour, to provide access to the deep lobe. This may involve either a superficial parotidectomy, or simply reflecting the superficial lobe anteriorly, keeping the parotid duct intact and replacing it at the conclusion of surgery.
- Deliver the tumour either between, or inferior to the facial nerve or its branches, identifying the branches of the facial nerve around the tumour, and removing tumour between the splayed facial nerve branches.
- The deep lobe of the parotid / tumour is bordered medially by the fat of the parapharyngeal space, and can be delivered from the par pharyngeal space by blunt dissection.
- Be prepared to divide the external carotid, deep transverse facial and superficial temporal arteries and the retromandibular and superficial temporal veins if and when they are encountered during the dissection.
- Additional access may be provided to the deep aspect of a tumour by dividing the Styloid process and / or via a transcervical approach.

### Tumour Spillage

- Great care should be taken to avoid rupture and spillage of pleomorphic adenoma tissue into the operative site as it may lead to multifocal tumour recurrence, often more than 20 Years following surgery. A minor controlled capsular rupture may be simply managed by copiously irrigating the wound. With more extensive ruptures especially of a pleomorphic adenoma in the parapharyngeal space, some would advocate postoperative radiation therapy. Due to the multifocal nature of the recurrence, MRI is an important preoperative investigation for recurrence. Having to operate in a previously dissected field, the facial nerve is at greater risk of injury and should be monitored during surgery.

### Wound Closure

- **Confirm Nerve Continuity:** Carefully inspect the nerve. One may stimulate the nerve with a nerve stimulator. Neuropraxia due to mechanical trauma may however cause failure of muscle contraction.
- **Obtain Meticulous Haemostasis:** Use ties and bipolar diathermy. Employ a Valsalva manoeuvre to identify venous bleeding.
- **Sealed Suction Drain:** Until drainage < 50 ml / 24 Hrs.
- **Skin Closure:** Subcutaneous and subcuticular absorbable sutures.

### Facial Nerve Repair

- Unlike with malignant tumours, the facial nerve and its branches can virtually always be dissected free from benign neoplasms. Isolated midfacial branches may be sacrificed without causing visible facial dysfunction. Transection of the temporal (frontal) and marginal mandibular nerves however results in disfiguring facial symmetry; these nerves should be repaired with 8/0 nylon / prolene epineural sutures. When primary nerve repair is not possible due to undue tension or nerve resection, then the nerve can be grafted with greater auricular nerve, or sural nerve.
- The greater auricular nerve is approximately the same diameter as the facial nerve trunk, and has a few branches that can be used to graft more than one facial nerve branch.
- The sural nerve provides greater length and more branches and is better suited to bridging longer defects and for grafting to more peripheral branches.
- When the proximal end of the facial nerve is not available, e.g. with extensive proximal perineural extension, then a hypoglossal facial nerve interposition graft can be used to restore facial tone and movement. The nerve graft is sutured end to end to the distal facial nerve(s), and end to side to the hypoglossal nerve after cutting about 25% into the side of the hypoglossal nerve to expose the nerve axons.

**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.

**Postoperative Care and Follow Up:**

1. The wound is exposed by removal of the pressure dressing after full emergence from anaesthesia, usually on the ward in the day (pressure dressings off).
2. Suction drain management.
3. Patients who have been operated will be advised for follow up regularly for first 2 to 3 weeks if they have.
  - a. Signs of infection: tenderness, swelling, warmth at the site, any pus like drainage.
  - b. Numbness, tingling / decreased feeling around the surgical site, the side of the face, neck and lower ear on the affected side.

**RESULTS**

This is prospective observation study of management of benign parotid tumours done in the period from September 2015 to September 2017 at the Department of E.N.T., Government E.N.T. Hospital, Osmania Medical College, in which, 25 Patients were taken up for study.

**Sex Incidence**

In this study 16 (64%) patients were female and 9 (36%) were males. Females to Male ratio was found to be 1.77: 1.

Sex	No. of Patients	%
Female	16	64
Male	9	36
<b>Total</b>	<b>25</b>	<b>100</b>

*Table 1*

**Age Incidence**

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.

Age in Years	No. of Patients	%
0-20	3	12
21-40	8	32
41-60	13	52
Above 60	1	4
<b>Total</b>	<b>25</b>	<b>100</b>

*Table 2*

**Side (Right / Left) of Surgery**

In this study, 16 (60%) patients were having tumour on right side and 10 (40%) patients were having tumour on left side. Right to left ratio was found to be 3.2.

Sex	No. of Patients	%
Right	15	60
Left	10	40
<b>Total</b>	<b>25</b>	<b>100</b>

*Table 3*

**Evaluation of Systems in Benign Parotid Tumours**

All patients were complaining of mobile, palpable, firm solitary pre-auricular mass.

**Duration of Symptoms**

In this study, 25 (96%) patients had symptoms of duration 0.1-5 years. One patient (4%) had symptoms for more than 5 years duration.

Duration of Years	No. of Patients
0 – 0.5	5
0.5 – 1	7
1 – 2	8
2 – 3	3
3 – 5	1
5 – 8	1

*Table 4*

**Clinical Findings (Signs)**

Skin fixity was found only in 1 patient (4%). Deep lobe involvement was found in 3 Patients (12%) and no patients were diagnosed with facial nerve involvement 21 patients (84%) were found with superficial lobe involvement.

Signs	No. of Patients	%
Deep Lobe Involvement	3	12
Facial Nerve Involvement	0	0
Superficial Lobe Involvement	21	84
Recurrent Superficial Lobe Involvement with skin Fixity	1	4

*Table 5*

**Investigations**

All patients in the study group were subjected to investigations specific and non-specific prior to undergoing surgery.

**Efficacy of FNAC in Diagnosis benign Parotid Tumours**

In FNAC exact histological correlation was found in 84% of all cases. Four FNAC (16%) Report was given as Parotid cyst. HPE turned out to be pleomorphic adenoma.

FNAC +VE NUMBER	%	FNAC -VE NUMBER	%
21	84	4	16

*Table 6*

**Anaesthesia for Parotidectomy:**

All the cases were operated under general anaesthesia.

**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%). SDP: Selective Deep Lobe Parotidectomy, TP: Total Parotidectomy, E: Enucleation.

Procedure	No. of Patients	%
PSP	10	40
SP	11	44
SDP	3	12
TP	0	0
E	1	4

**Table 7**

**Histopathological Types**

Pleomorphic adenoma was the most common tumour encountered in the study (88%), 4% of patients had Retention cyst and 4% with Keratin cysts and 4% with Lymphadenoma.

Tumour	No. of Patients	%
Pleomorphic Adenoma	22	88
Retention Cyst	1	4
Warthin's Tumour	0	0
Basal Cell Adenoma	0	0
Keratin Cyst	1	4
Lymphadenoma	1	4

**Table 8**

**Postoperative**

All Patients were followed up postoperatively for assessment of Symptomatic control and evaluation of any postoperative complications.

**Complications of Surgery**

Temporary Facial nerve palsy was observed in 2 Patients (8%) and non-permanent, facial nerve palsy was found. Two patients (8%) with Hematoma, 1 Patient (4%) with wound infection and one with Ear Numbness (4%) was found.

Complications	No. of Patients	%
Temporary Facial Nerve Palsy	2	8
Permanent Facial Nerve Palsy	0	0
Hematoma	2	8
Wound Infection	1	4
Fistula	0	0
Frey's Syndrome	0	0
Recurrence	0	0

**Table 9**

**Follow Up**

All Patients were followed up, the follow up period ranging between 1 to 12 months (mean: 6 months).

**DISCUSSION**

The prospective observational study of management of benign parotid tumours included 25 patients, conducted in the department of Govt. ENT Hospital, Osmania between September 2015 to September 2017. All Patients in the study group had been diagnosed as having swelling in the region of Parotid.

- 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, 16 (60%) patients were having tumour on right side and 10 (40%) patients were having tumour on left side. Right to left ration was found to be 3.2
- In this Study 24 (96%) patients had symptoms of duration 0.1 - 5 Years. One Patient (4%) had symptoms for more than 5 Years duration.
- Skin Fixity was found in 1 recurrent tumour patient (4%). Deep lobe involvement was found in 3 patients (12%) and no patients was diagnosed with facial nerve involvement 21 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.
- Temporary facial nerve palsy was observed in 2 patients (8%) of Grade II (House Brackmann Scale) and no permanent facial nerve palsy was found. Two Patients (8%) with Hematoma, 1 Patient (4%) with wound infection and one with Ear Numbness (4%) was found.
- In FNAC exact histological correlation was found in 84% of all cases. Four 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.
- 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.
- Proper surgical techniques should be adopted for facial nerve preservation and to avoid recurrence.

**CONCLUSION**

Benign Parotid Gland tumours are very rare and are less frequently encountered in clinical practice. Patients presenting with a swelling in the region of parotid region should be suspected of parotid neoplasm and should be confirmed by complete investigations. Benign Parotid tumours most common occur in third and fifth decade with a female preponderance.<sup>14</sup>

Most of the salivary gland tumours arise in the parotid gland. Most of them are benign and most of the benign tumours are pleomorphic adenoma. Swelling is the commonest symptom of parotid gland tumours. Most of the benign tumours exhibit a slow growth pattern. FNAC is a

good tool in diagnosing 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). Other complications like Frey's Syndrome and salivary fistulas are not encountered. Recurrence of the tumour is also possible, for which long term follow up is required. But in a developing country like India, majority of the patient's wont come for follow up and is very difficult to calculate the incidence of recurrence. Long term randomized clinical trials are required for benign parotid tumour surgery. As majority of patients will have swelling without any other symptoms for a long time, they usually present late and chances of malignant transformation is very high. Early detection and treatment is very essential to prevent disease morbidity and mortality.

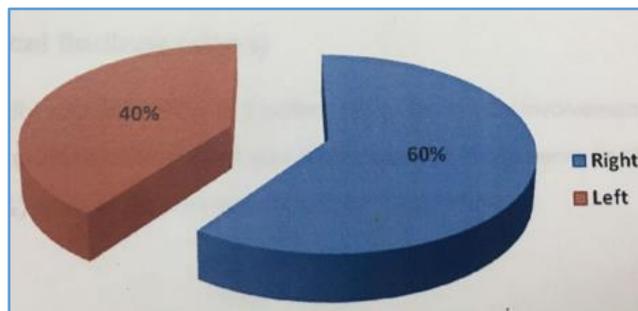


Figure 4. Tumour Side Cross Tabulation

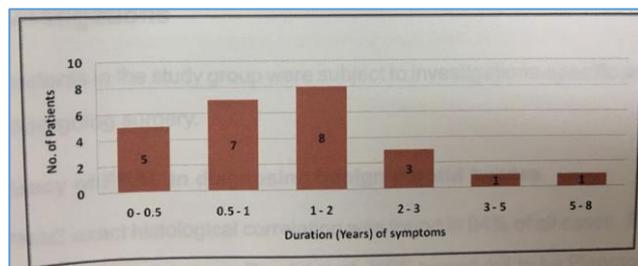


Figure 5. Duration of Symptoms

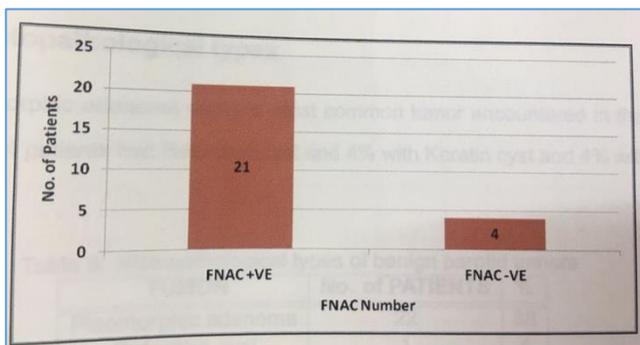


Figure 1. FNAC Number

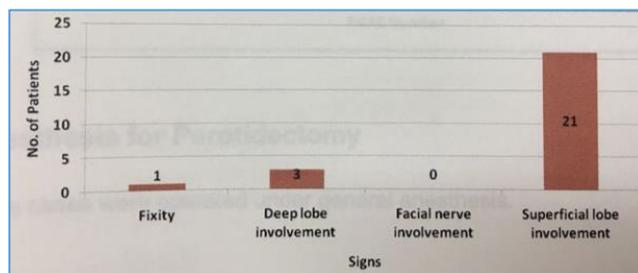


Figure 6. Signs of Parotid Gland Tumours

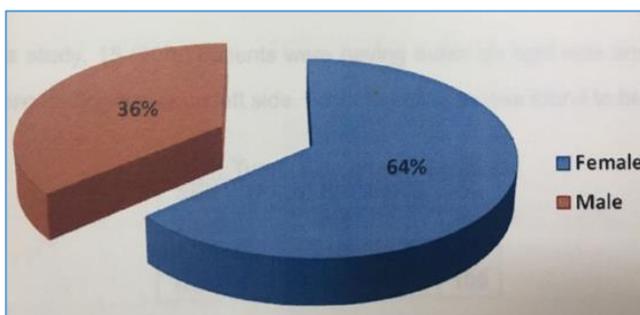


Figure 2. Tumour Sex Cross Tabulation

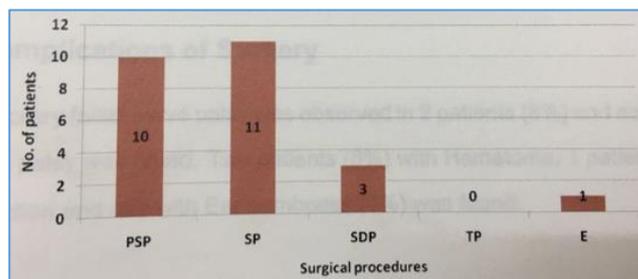


Figure 7. Types of Surgical Treatment Adopted in the Study

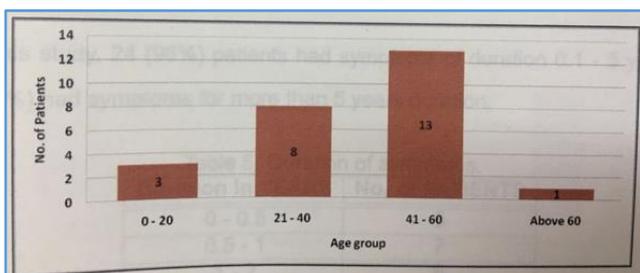


Figure 3. Age Tumour Cross Tabulation

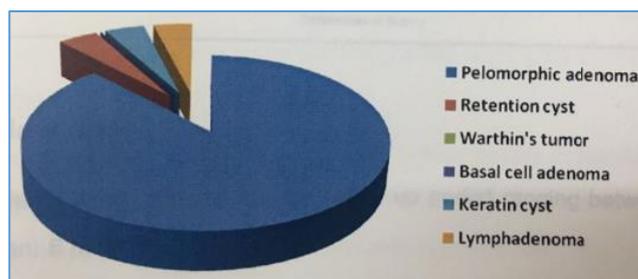
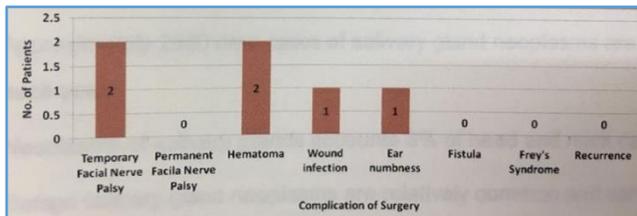


Figure 8. Histopathological Types of Benign Parotid Tumours



**Figure 9. Complications of Surgery**

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