

A Dissertation on

**“COMPREHENSIVE STUDY OF PERITONSILLAR  
ABSCESS IN COIMBATORE MEDICAL COLLEGE”**



Dissertation submitted to

**THE TAMILNADU Dr. M.G.R MEDICAL UNIVERSITY**

**CHENNAI – 600032**

with partial fulfillment of the regulations required for the award of

**M.S.ENT**

**BRANCH-IV**



**COIMBATORE MEDICAL COLLEGE HOSPITAL**

**COIMBATORE**

**MAY 2020**

**Registration Number: 221714251**

## **CERTIFICATE**

This is to certify that this dissertation entitled “**COMPREHENSIVE STUDY OF PERITONSILLAR ABSCESS IN COIMBATORE MEDICAL COLLEGE**” is a bonafide research work done by **Dr. DIVYA PRIYA. G**, under my guidance during the academic year 2017 to 2020.

This has been submitted in partial fulfillment of regulations of the Tamil Nadu Dr. M.G.R Medical University, Chennai for the award of M.S Degree in ENT(Branch IV). I forward this to The Tamil Nadu Dr.M.G.R Medical University, Chennai – 600 032.

**THE PROFESSOR & GUIDE**

Department of ENT  
Coimbatore Medical College

**THE PROFESSOR & HOD**

Department of ENT  
Coimbatore Medical College

**THE DEAN**

Coimbatore Medical College, Coimbatore

**INSTITUTIONAL HUMAN ETHICS COMMITTEE  
COIMBATORE MEDICAL COLLEGE, COIMBATORE - 18**

EC Reg No. IECR/892/Inst/TN/2016  
Telephone No. 0422 - 2574375/76  
Fax : 0422 - 2574377

**CERTIFICATE OF APPROVAL**

To  
Dr. Daya Priya G,  
Post Graduate,  
Department of Forensic Medicine,  
Coimbatore Medical College & Hospital,  
Coimbatore - 18.

Dear Dr. Daya Priya G,

The Institutional Ethics Committee of Coimbatore Medical College, reviewed and discussed your application for approval of the proposal entitled **"Comprehensive Study of Peritonsillar Abscess."** No.037/2017.

The following members of Ethics Committee were present in the meeting held on 21.11.2017 conducted at MM - II Seminar Hall, Coimbatore Medical College Hospital Coimbatore-18.

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2	Dr. Usha MD., Professor of General Medicine, CMCH, Cbe	Member Secretary
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6	Dr.R. Shanmugasavadivu MD., Professor of Physiology, CMC, Cbe	Basic Medical Scientist
7	Dr.N. Shanthi MD., Professor of Pharmacology, CMC, Cbe	Basic Medical Scientist
8	Dr.A.Dhanalakshmi MD., Assoc. Professor of Pathology, CMC, Cbe	Basic Medical Scientist
9	Dr.L.Madhan MD., Professor of Pharmacology, CMC, Cbe	Basic Medical Scientist
10	Dr.N.Paramasivan MD., Professor of Pharmacology, Sri Ramakrishna Dental College, Coimbatore	Basic Medical Scientist
11	Mrs.A.Sharmila BA., BL., Advocate	Legal Expert
12	Dr.K.P.Sampath Kumar M.Pharm, Ph.D., Asst. Prof. of Pharmacy, CMC, Cbe	Scientific Member
13	Dr.G.Vani Ganesh M.Sc., Ph.D., Tutor in Medical Surgical Nursing, CMCH, Cbe	Scientific Member
14	Mr.V. Balasubramani MA, MA, MBA, LLB, M.Phil, PG, D.M, DLLAL, Chief Executive, Avinashilingam JSS Self Finance Courses, Cbe	Social Worker
15	Mr.V.A.Shahul Hameed, +2	Lay Person

We approve the Proposal to be conducted in its presented form.

Sd./Chairman & Other Members

The Institutional Ethics Committee expects to be informed about the progress of the study, and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

  
Member Secretary, Ethics Committee

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COIMBATORE MEDICAL COLLEGE  
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## **DECLARATION**

I solemnly declare that this dissertation entitled “**COMPREHENSIVE STUDY OF PERITONSILLAR ABSCESS IN COIMBATORE MEDICAL COLLEGE**” was done by me at the Coimbatore Medical College Hospital, Coimbatore during the study period from 2017 to 2020 under the guidance and supervision of **Prof. Dr.V.SARAVANAN.M.S(ENT)**

This dissertation is submitted to The Tamil Nadu Dr. M.G.R Medical University, towards partial fulfillment of regulation for the award of M.S DEGREE (BRANCH IV) in Otorhinolaryngology.

**Place:** Coimbatore

**Date:**

**Dr.DIVYA PRIYA. G**

## ACKNOWLEDGEMENT

I am immensely grateful to **Prof.Dr.A.R.ALI SULTHAN., M.S., D.L.O.,** Head of the Department of ENT, Coimbatore Medical College for his constructive inputs in the study and for his encouragement, and support in conducting this study.

I am greatly indebted to **Dr.V.SARAVANAN.,M.S(ENT),** Associate Professor, Department of ENT, Coimbatore Medical College, who is also my thesis guide. I am grateful and indebted to sir for entrusting me with the topic of study and guiding and advising me throughout.

I would like to express my sincere gratitude to **Prof.Dr.B.Asokan, M.S.,Mch,** The Dean, Coimbatore Medical College, for having permitted me to conduct this study.

I express my sincere thanks to all the Assistant Professors, **Dr.M.Sivakumar.M.S(ENT), Dr.M.Nallasivam.M.S(ENT), Dr.J.Ezhil Arasan.M.S(ENT), Dr.M.Vasudevan.DLO, Dr.R.Mohan.M,D(PHY).,DLO,** for their thoughtful guidance throughout the work.

I thank the Chairman, Secretary and members of Institutional Ethical Committee, Coimbatore Medical College, Coimbatore.

I thank all my colleagues and friends for their constant support and encouragement to conduct this study.

I am extremely thankful to my husband for supporting me in my statistics work and my parents and my sister for their continuous support and encouragement.

Last but not the least, I express my sincere gratitude to all my patients for the generosity shown by them and having consented to take part in this study, without whom this study would not have been possible.

Above all I thank the Almighty for His immense blessings.

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## **LIST OF ABBREVIATIONS USED**

PTA – PERITONSILLAR ABSCESS

I & D – INCISION AND DRAINAGE.

CXR – CHEST XRAY

GABHS – GROUP A BETA HEMOLYTIC STREPTOCOCCUS

CT - COMPUTED TOMOGRAM.

MRI - MAGNETIC RESONANCE IMAGING.

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## **INTRODUCTION**

Deep neck space infection is one of the most lethal infectious diseases occurring in a complex framework in neck formed by the superficial layer and three layers of deep cervical fascia. Peritonsillar abscess colloquially known as “Quinsy” is the most common infections of deep neck space infections both in adults and children, with an incidence being about 30 cases per 100 000 population per year. Even in the antibiotic era, it is the common condition. The peritonsillar space is defined as the area situated between the palatine tonsillar capsule medially and the superior constrictor muscle laterally. It is bounded anteriorly by anterior pillar which is formed by the palatoglossus muscle and posteriorly by the posterior pillar which is formed by palatopharyngeus muscle. Peritonsillar abscess (PTA) is defined as accumulation of pus inside the above mentioned space. Despite the widespread use of antibiotics, it is the most common suppurative complication in tonsillar infections. Unilateral Peritonsillar abscess is the most common complication of acute tonsillitis. Uncertainty remains regarding the exact pathogenesis of Peritonsillar abscess, but the possible route of spread of infection from infected tonsil through crypts after perforation of the capsule and involvement of Weber’s glands (salivary glands), with progression from tonsillitis to acute peritonsillitis

(inflammation with localized erythema and induration without pus) and finally to Peritonsillar abscess. Although group A beta haemolytic streptococcus is usually the pathogen involved in the aetiology of this entity, in most cases the infection corresponds to a mixed flora of aerobic and anaerobic agents. If peritonsillar infections are not treated properly there is a risk of developing serious complications such as thrombosis of the internal jugular vein, mediastinitis, pericarditis, pneumonia, formation of pseudoaneurysms and septicemia. According to the literature progression of infection from tonsils to deep neck space occurs in 1.8% patients and from those spaces to mediastinum in 10%. Mortality in acute mediastinitis is still high and ranges from 30% to 40%. Hence immediate proper management by surgical drainage and proper antibiotic cover is essential.

## **AIM OF THE STUDY**

- Peritonsillar abscess is a polymicrobial infection which possess acute life threatening complications if not treated at the right time.
- This study aims at finding the anatomical factor for unilateral PTA formation and appropriate management protocols.

## **OBJECTIVES OF THE STUDY**

1. To list the frequency of PTA by age and sex.
2. To study the bacteriology of PTA and antibiotic preference.
3. To compare the side of common occurrence.
4. Comparison of crypt length of tonsil on the involved side vs tonsil on the normal side and to find whether there is any significant association.



## **REVIEW OF LITERATURE**

- Vikram kulkarni Et al<sup>1</sup> conducted 2 year prospective study covering 140 patients. All patients were divided into two groups according to surgical procedures carried out. Result concluded that incision and drainage is better modality as compared to needle aspiration
- Czerwinska Et al<sup>2</sup> conducted a retrospective review of peritonsillar abscess of which 111 patients were admitted. Patients with history of recurrent pharyngotonsillitis had high incidence of PTA. Microbial aspirates were performed in 40.5% of patients. Streptococcus pyogenes, growing frequently in monoculture. Monomicrobial growth predominated in peritonsillar abscess aspirate cultures with Streptococcus pyogenes being the most frequent pathogen.
- Hsiang-ju Hsiao Et al<sup>3</sup> conducted a retrospective study to investigate in patients less than 18 years of age. In total, 56 children- 31 male and 25 female were included. 68% of children less than 12 years of age complained of sore throat. 55% presented with characteristic presentation of fever and sore throat plus bulge in the oropharynx suggestive of diagnosis received surgical drainage at emergency department immediately and 87% of them were older than 12 years of age. 45% children needed CT to confirm diagnosis. The most common

antibiotics are penicillin containing regimens. The predominant organisms identified as streptococcus species. No cases were fatal.

- Ismail khan et al<sup>4</sup> conducted a descriptive study regarding the frequency of peritonsillar abscess by age, sex, laterality, and to list the presentation of disease by symptoms, signs and complications and to determine the efficacy of incision & drainage procedure under local anaesthesia in terms of hospital stay and recurrence. Test results included that peritonsillar abscess occurred more in males. It was more on left side (58.35%). 73.35% had prior antecedent history of tonsillitis. 5% presented with complications. All patients underwent incision & drainage with no recurrence. Interval tonsillectomy was done 60% of patients.
- Flavio Akira Sakae et al<sup>5</sup> analysed the microbiology of peritonsillar abscess. 87% samples showed positive cultures. Aerobic or facultative aerobic bacteria were isolated from 23% isolates, mixed aerobic and anaerobic bacteria from 60% and anaerobic bacteria from 3% aspirate. The most common aerobic isolate was streptococcus species with streptococcus pyogenes being identified in 23% aspirates. Predominant anaerobes were Prevotella species and Peptostreptococcus species. Patients had received previous antimicrobial treatment in 63% cases. The study concluded that

peritonsillar abscess is a polymicrobial infection. The number of agents isolated was larger in patients not previously treated with antibiotics, but the use of antimicrobial drugs did not interfere with type of bacterium isolated.

- Yeonji lee et al<sup>6</sup> conducted a study on efficacy of systemic steroids on clinical course of peritonsillar abscess. 2 groups one with steroid and one with placebo were taken. Pain related parameters, body temperature and dysphagia during first 24 hours of treatment were significantly removed in steroid group than in placebo group. Discharge rate during first 5 days of post treatment period was significantly higher in steroid group than the control group. The study concluded that systemic steroid administration with antibiotics reduced pain related symptoms, as well as provides benefit in respect to clinical course.
- Yukinori Takenaka et al<sup>7</sup>, conducted a retrospective study to study if gram stain can influence the choice of antibiotic for treatment of peritonsillar abscess. Total of 57 cases were analysed. 16% cases showed aerobes, 51% cases had anaerobes, mixed growth of aerobes and anaerobes were seen in 21% cases. The cultured bacteria were mainly streptococcus species, anaerobic gram positive cocci, and anaerobic gram negative rods. The study concluded that when gram

stain showed only gram positive cocci then penicillin is the drug of choice. In other cases antibiotics that are resistant to penicillin should to be used.

- Brent A Chang et al<sup>8</sup> conducted randomised controlled trails comparing the needle aspiration with incision and drainage and concluded very low quality evidence suggests that incision and drainage may be associated with lower probabilities of recurrence than wide bore needle aspiration and low quality evidence to suggest that needle aspiration is less painful.
- Gandhi et al<sup>9</sup> conducted a retrospective study to identify the cause of peritonsillar abscess, microbiology, management and its outcomes. The study concluded that wide bore needle aspiration is easy and cheap, less traumatic, effective method of management in emergency conditions. Early needle aspiration and intra venous antibiotics prevent the need for incision and drainage.
- Richagupta et al<sup>10</sup> conducted a clinical and epidemiological study on peritonsillar abscess and concluded that most common age group is found to be 11-20 years. Males were predominant. Most cases presented with odynophagia and dysphagia. Appropriate antibiotics were initiated after needle aspiration of pus and proceeded with

incision and drainage in 11 cases, needle aspiration in 4 cases, interval tonsillectomy in 1 and conservative management in 6 cases.

- Shilpa et al<sup>11</sup> conducted randomised control trials which had two groups, one underwent three point needle aspiration and other group incision and drainage. Bacteriological studies of the pus obtained showed beta haemolytic streptococcus to be more common, followed by staphylococcus. Three point needle aspiration of pus was found to be efficacious in pain relief than incision and drainage in initial management of peritonsillar abscess.
- Ying Piao Wang et al<sup>12</sup> conducted a retrospective cohort study in the impact of prior tonsillitis and treatment modality on the recurrence of peritonsillar abscess. The study suggested an increased risk of peritonsillar abscess recurrence in patients with prior tonsillitis in all age groups and can be managed by needle aspiration in pediatric population. Patients with age less than 30, with peritonsillar abscess and more than 5 prior tonsillitis have the greatest risk of recurrence.
- Maroacostales marcos et al<sup>13</sup> conducted a prospective study in 100 consecutive cases. In the study diagnosis of peritonsillitis or peritonsillar abscess is done using the aspiration. Study showed that 55% received antibiotics. 62% were peritonsillar abscess and the rest were peritonsillitis. All were admitted and puncture drainage was done

along with intra venous antibiotics and a single dose of steroids. The mean length of hospital stay was 3 days and recurrence rate was 3%.

➤ Yi-Wen Tsai et al<sup>14</sup> conducted a retrospective study and analysed variables like demographic characteristics, underlying systemic disease, smoking, alcoholism, betel nut chewing, bacteriology and hospital duration. The most common pathogen in culture was streptococcus viridians followed by Kleibseilla pneumonia. Host factors associated with several pathogens. Betel nut chewing was associated with isolation of gram positive cocci. There was no significant association in bacterial isolation with smoking and alcoholism. Elderly population had higher isolation of klebseilla species. Obesity was associated with peptostreptococcus. There was no specific organism associated with prolonged hospital stay. Several broad spectrum antibiotics combined with metronidazole and gentamycin was given.

➤ Nurullahseyhun et al<sup>15</sup> conducted a retrospective observational study in relation to age, gender, duration of disease, diabetes, smoking, smoking status, white blood cell count, C reactive protein along with monthly and seasonal incidences to assess any climatic condition predisposition. The mean stay in hospital and recurrence were also analysed. The study results showed there was more incidence of

peritonsillar abscess in spring and winter. There was positive correlation between the length of hospital stay and white blood counts (WBC's) and C reactive protein (CRP). Smoking status had no correlation with the occurrence of peritonsillar abscess.

- Hardik Daradet<sup>16</sup> al conducted a study on “Changing trends in Microbiology of peritonsillar abscess - Prospective study” concluded that the bacteria identified were beta hemolytic Streptococcus which was followed by S.aureus and concluded that 4 point needle aspiration was effective similar to incision drainage in symptomatic relief in initial management of peritonsillar abscess.
- Verghese et al<sup>17</sup> in his study on “ peritonsillar abscess- clinic bacteriological study” showed that there was male preponderance and beta haemolytic streptococcus being the most common isolate. Commonest isolate in anaerobic culture was Peptostreptococcus.
- Powel et al<sup>18</sup> conducted a literature review using the Medline and Embrane database and concluded that the intraoral ultra sound carries a sensitivity of 89% to 95% and specificity of 79%to 100%. Steroids aid in symptomatic relief earlier. Penicillin and metronidazole are effective combination in controlling the infection in 98% cases. There is no convincing evidence in favour of either incision and drainage or wide bore needle aspirations. Most of peritonsillar abscess cases need

not be admitted and can be managed as outpatient. Interval tonsillectomy may be indicated in patients who are in high risk for recurrence.

- Mazur et al<sup>19</sup> conducted a retrospective study in peritonsillar abscess regarding the epidemiology, clinical features and concluded that monoculture was there in aspirated pus which showed the growth of *Streptococcus pyogenes*.



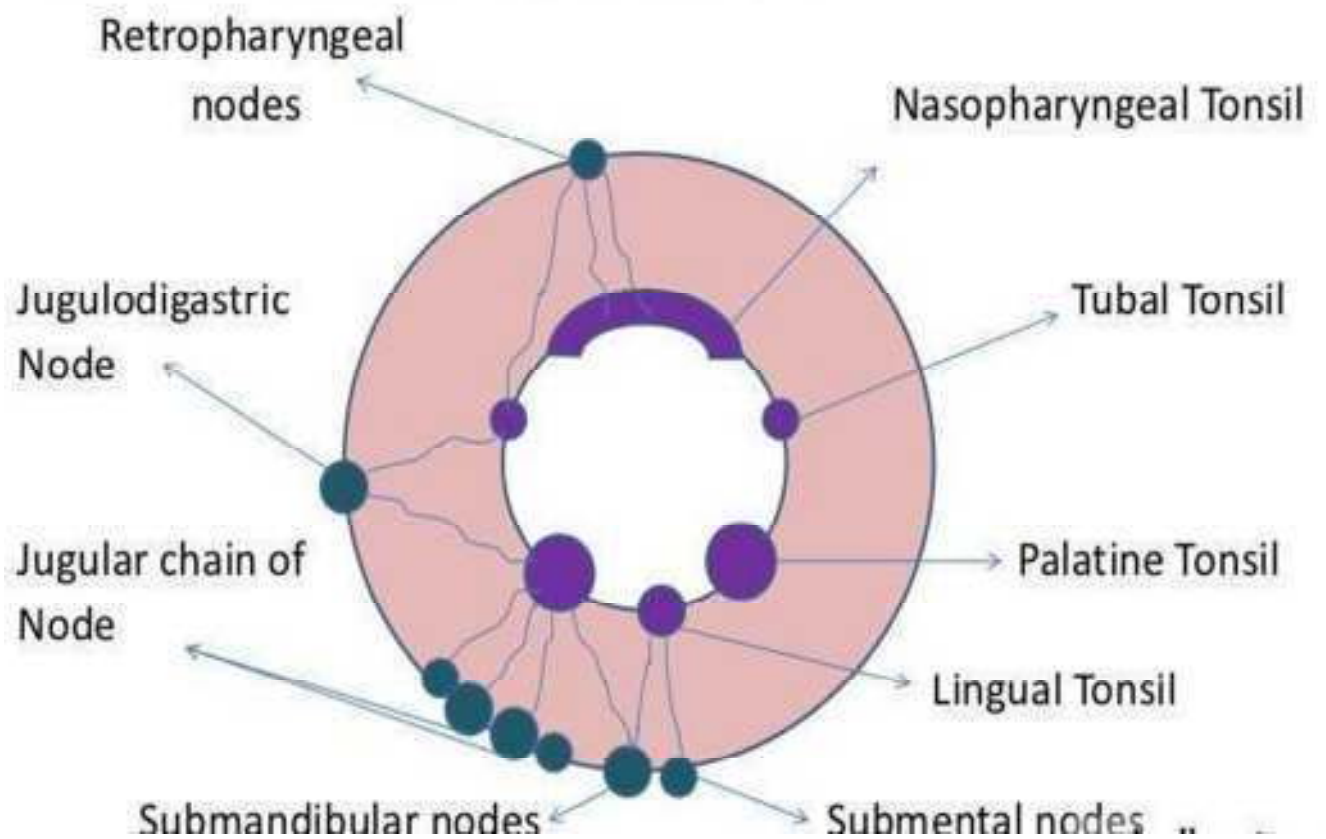
## **PALATINE TONSILS**

These are paired lymphoid tissues in pharyngeal mucosa of oropharynx guarding oral cavities and take part in body's defence mechanism. Palatine tonsils along with adenoids, lingual tonsils, tubal tonsils and aggregates of pharyngeal submucosal lymphoid tissue form the Waldeyer's ring.

These are ovoid structures in lateral wall of oropharynx, lying in the tonsillar fossa between palatoglossal and palatopharyngeal arches. Size varies according to age and attain maximum size at puberty averages 20-25mm long and 10-15mm wide. Regression begins by puberty and little tissue remains during old age.

**FIGURE 1:**

## **WALDEYER'S LYMPHATIC RING.**



### **Embryology:**

Tonsils begin to develop during the third month of intra uterine life. It develops from ventral part of second pharyngeal pouch and dorsal part of first pharyngeal pouch.

**Table 1: Development of tonsil at 8 weeks**

Tonsillar fossa	Dorsal wings of first pharyngeal pouch.
Palatine tonsil	Ventral wing of second pharyngeal pouch
Tonsillar pillars	Second and third arches

Crypts of tonsil develop during 3 to 6 months of intra uterine life. Capsule develops by 5 th month of intra uterine life. Germinal centres develop after birth.

### **ANATOMY:**

Tonsil has 2 surfaces- medial and lateral surfaces.

#### **MEDIAL SURFACE:**

It is a free surface with pitted appearance. These pits are 10-12 in number which leads to a branching crypts which extend through the whole thickness of tonsils and ends blindly. In healthy tonsils they are fissure like, walls of crypts are collapsed and are in contact with each

other. One of the crypt situated in upper part known as crypta magna. It is otherwise called as intra tonsillar cleft or recessus palatines and it represents the ventral part of second pharyngeal pouch. Upper part of recess contains lymphoid tissue which enters into soft palate known as pars palatina of palatine tonsil.

### **LATERAL SURFACE:**

It is covered by fibrous tissue of tonsillar hemicapsule that can be easily separated from underlying superior constrictor muscle. Paratonsillar vein descends from soft palate lateral to tonsillar capsule and then it pierces the pharyngeal wall.

### **ANTERIOR:**

Palatoglossal fold with palatoglossal muscle which forms the anterior pillar.

### **POSTERIOR:**

Palatopharyngeal fold with palatopharyngeal muscle which forms the posterior pillar.

### **SUPERIOR & INFERIOR:**

Capsule is firmly connected to side of tongue inferiorly. Superiorly it extends to the edge of soft palate.

**UPPER POLE:**

It extends into soft palate and its medial surface is covered by a semilunar fold known as plica semilunaris. It encloses the supra tonsillar fossa.

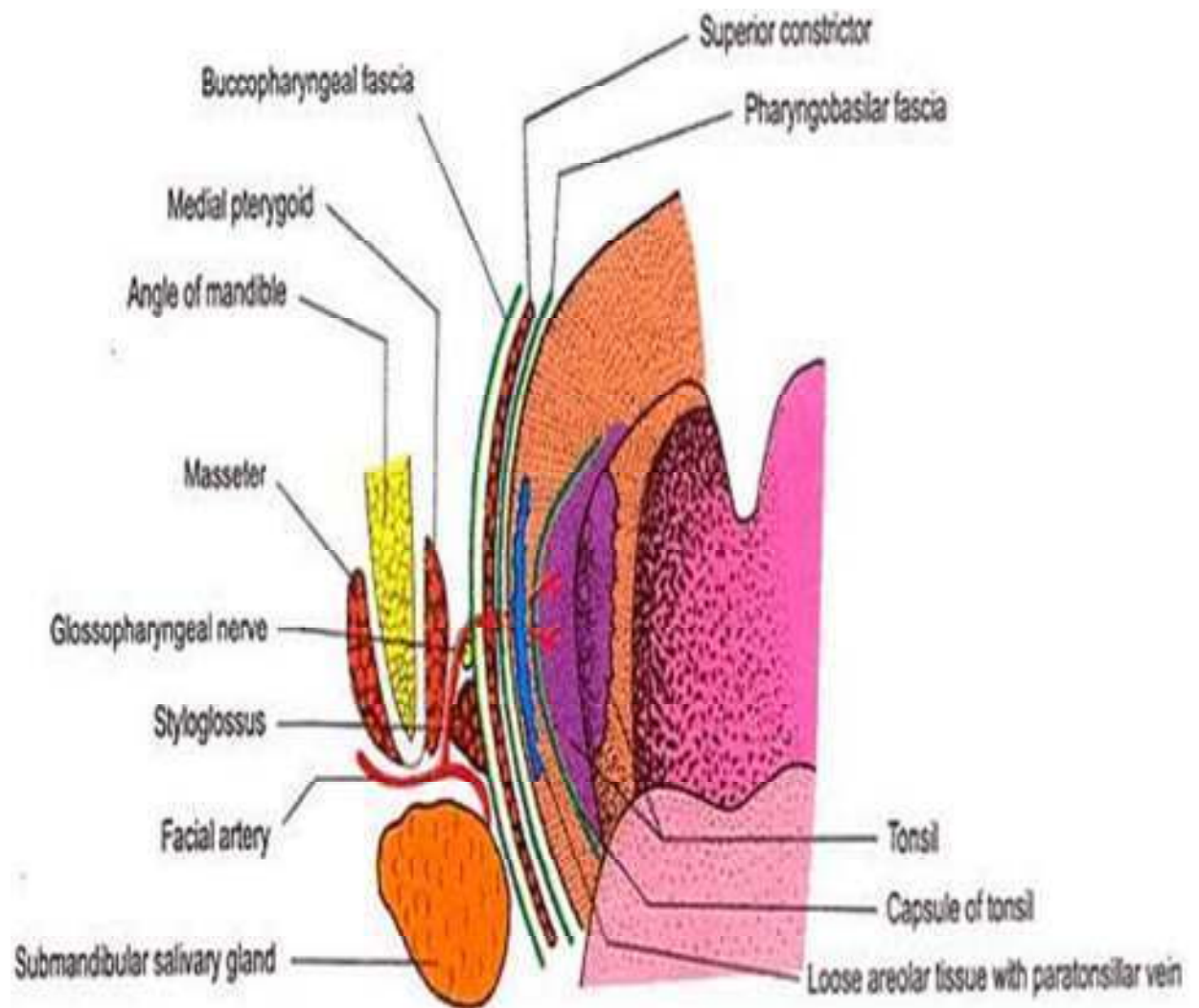
**LOWER POLE:**

It is covered by a triangular fold of mucosa known as plica triangularis enclosing the anterior tonsillar fossa. The tonsillo lingual sulcus separates tonsils from tongue.

**BED OF TONSIL:**

- Bed is formed by pharyngo basilar fascia.
- Below it lies the superior constrictor muscle followed by styloglossus muscle.
- Lateral to superior constrictor muscle lies the buccopharyngeal fascia.
- Styloid process and stylohyoid ligament and glossopharyngeal nerve passes obliquely downwards.
- Because of this location glossopharyngeal nerve is temporarily affected by edema following tonsillectomy.
- Internal carotid artery lies 2.5 cm behind and lateral to tonsil.

**FIGURE 2: BED OF TONSIL**



### **MICROSTRUCTURE OF TONSILS:**

Unlike the other MALT, palatine tonsil is lined by **non keratinised stratified squamous epithelium** on its oropharyngeal aspect. Whole of the tonsil is supported internally by delicate mesh work made up of type III fibres, which are condensed in places to form connective tissue septa. Histologically it consists of lymphocytes in a follicular manner and embedded in a stroma of connective tissue.

### **CRYPTS:**

10-20 crypts invaginate the surface mucosa. They are lined by stratified squamous epithelium. These are narrow tubular surface epithelial diverticula which branch within the tonsils. They are packed with plugs of epithelial cells, lymphocytes, and bacteria.

### **RETICULATED EPITHELIUM:**

Reticulated epithelium has slender cytoplasmic process which provides a coarse mesh work which accommodates the infiltrating lymphocytes and macrophages. Epithelial cells are held by desmosomes anchored to keratin along with dendritic cells. This intimate relationship facilitates the transport of antigen to tonsillar lymphoid cells.

### **TONSILLAR LYMPHOID TISSUE:**

There are 4 lymphoid compartments namely the crypt epithelium which consists of a non uniform epithelium, the follicular germinal center, the mantle zone, which is characterized by a high density of Lymphocytes and the extrafollicular area, populated by T-lymphocytes. Lymphoid follicles with many germinal centres are arranged roughly parallel to neighbouring connective tissue septa.

### **MANTLE ZONE OF FOLLICLES:**

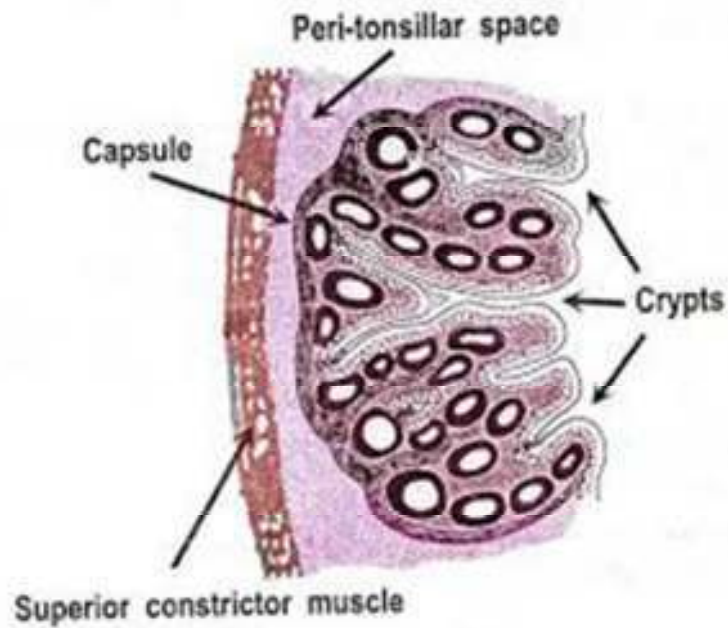
These are closely packed small lymphocytes which forms a dense cap. It is located nearest the mucosal surface. The cells are product of B cell lymphocytic proliferation.

### **EXTRA FOLLICULAR/ T LYMPHOCYTE AREAS:**

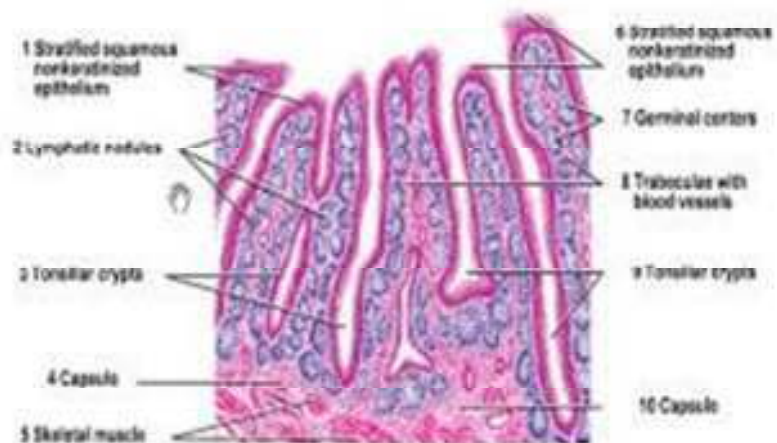
These have high endothelial vasculature through which circulating lymphocytes enters tonsillar parenchyma. They contain predominantly IgG and IgA producing B lymphocytes, T lymphocytes and antigen presenting cells.



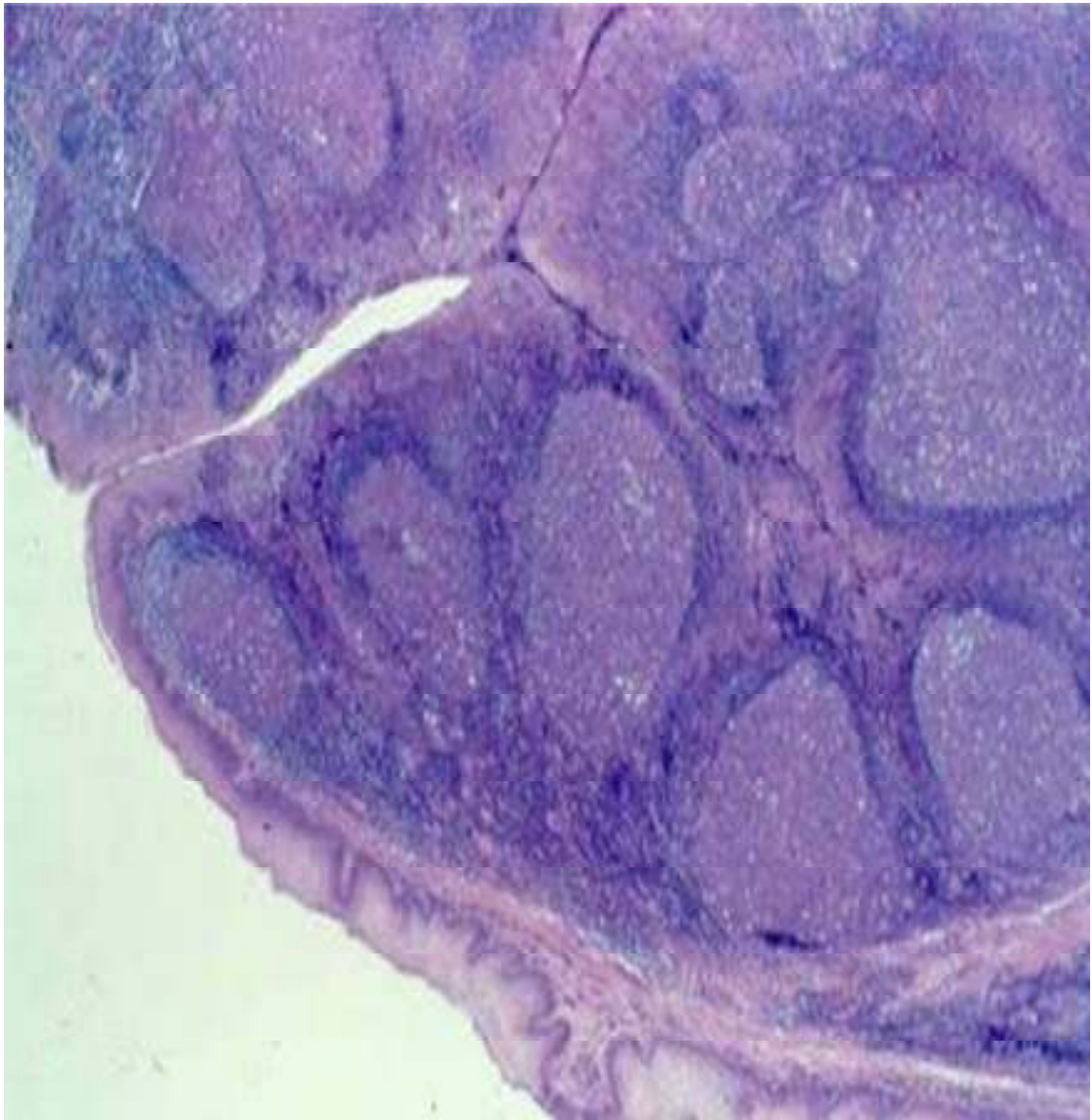
**FIGURE 3: MICRO STRUCTURE OF TONSIL**



### Palatine Tonsil



**FIGURE 4: HISTOLOGY IMAGE OF TONSIL-10X SHOWING  
LYMPHOID FOLLICLES AND CRYPT**



### **FUNCTION: ROLE OF TONSILS WITHIN IMMUNE SYSTEM:**

Tonsils consist of both B lymphocytes and T lymphocytes, though B lymphocytes predominate. Hence serves both humoral and cell mediated immune functions. B cells on exposure to allergen are capable of synthesising immunoglobulin G and immunoglobulin A. The lymphoid tissue filters the unwanted organisms and antigens hence thereby serves as mucosal barrier.

### **BLOOD SUPPLY OF TONSIL:**

Tonsil gets its blood supply from external carotid artery. 3 arteries enter from lower pole namely- tonsillar artery, dorsal lingual arteries, branch from ascending pharyngeal artery. Descending palatine artery with its greater and lesser palatine branches supplies tonsil from upper pole.

### **VENOUS DRAINAGE:**

Tonsils drains mainly to paratonsillar vein which in turn drains into common facial vein and pharyngeal venous complex or unite to form a single vessel which joins the facial vein.

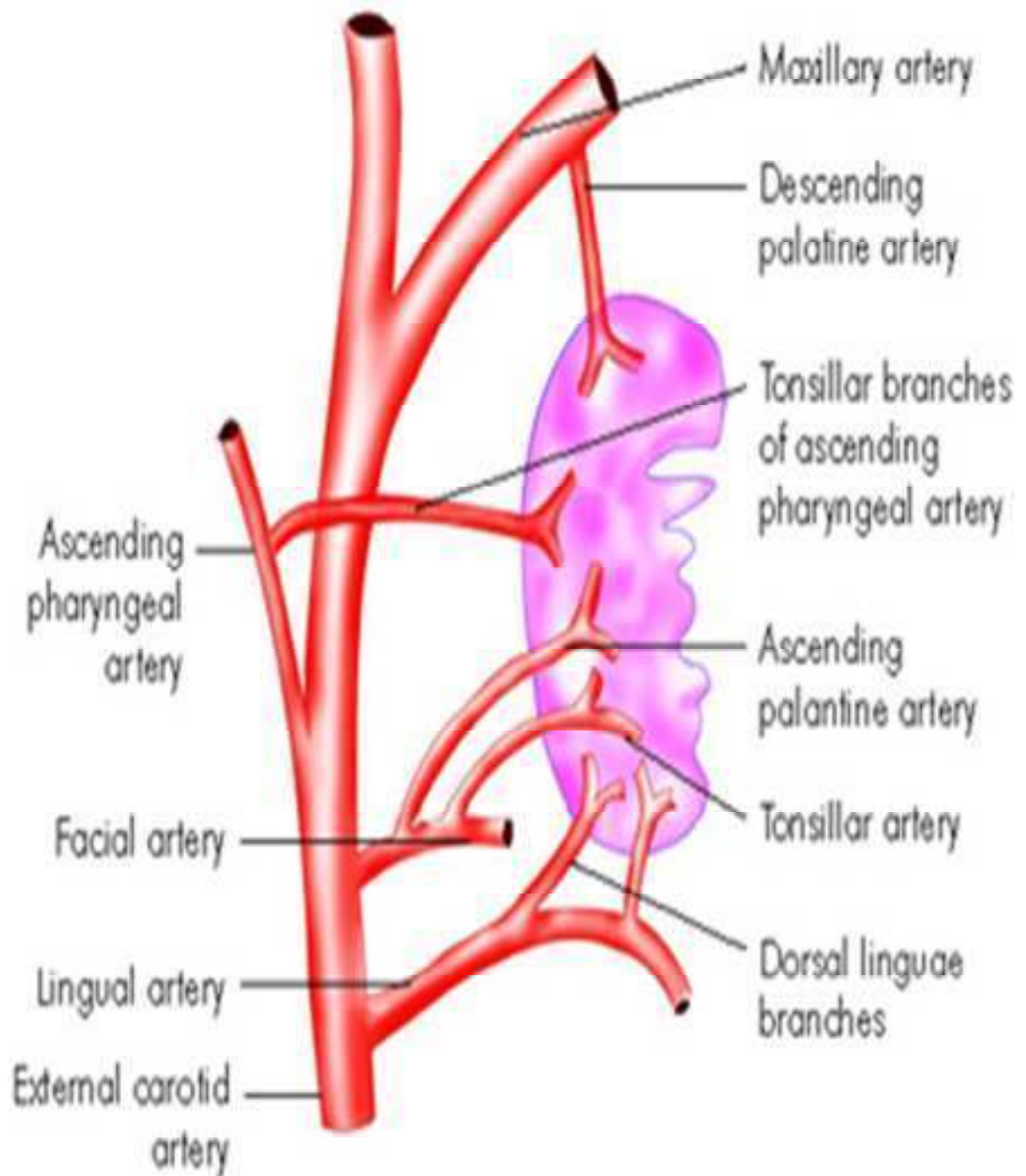
### **LYMPHATICS:**

It drains to upper deep cervical lymph nodes (Jugulodigastric nodes) directly and then to retropharyngeal lymph nodes.

### **NERVE SUPPLY:**

It is supplied by tonsillar branches of maxillary and glossopharyngeal nerves. The maxillary nerve passing through the pterygopalatine ganglion and are distributed through the lesser palatine nerves, which together with tonsillar branches of glossopharyngeal nerve forms a plexus around tonsil called as '**circulus tonsillaris**'

**FIGURE 5: BLOOD SUPPLY OF TONSIL**



## **ANATOMIC CONSIDERATIONS OF DEEP NECK SPACES:**

The cervical fascia invests the muscles and organs of the neck thereby limiting and influencing the direction of spread of neck space infections. It is divided into 2 layers-

- 1) **Superficial layer of cervical fascia-** envelops the platysma and muscles of facial expression.
- 2) **Deeper layer-** consists of
  - a) Superficial
  - b) Middle
  - c) Deep layers

## **SUPERFICIAL( INVESTING) LAYER OF DEEP CERVICAL FASCIA:**

- It attaches superiorly to the superior nuchal line of occipital bone, the mastoid process, zygomatic arch, inferior part of mandible, hyoid and the spinous part of cervical vertebra.
- Inferiorly it attaches to manubrium, clavicle, acromium, spine of scapula.
- Provides robust barrier for spread of neck space infection.

**MIDDLE LAYER OF DEEP CERVICAL FASCIA(PRE TRACHEAL FASCIA):**

- This fascia is limited to the anterior aspect of neck.
- It splits to enclose the thyroid gland, trachea, oesophagus and then blends laterally with carotid fascia.

**DEEPER LAYER OF DEEP CERVICAL FASCIA(PRE VERTEBRAL FASCIA):**

- It forms the fascial sleeve for prevertebral muscles which surround the vertebral column.
- It extends from the skull base to third thoracic vertebra and here it fuses with anterior longitudinal ligament of posterior mediastinum.

**ALAR FASCIA:**

- It is a component of deep layer of deep cervical fascia and lies between the middle and deep layers of deep cervical fascia.

## **NECK SPACES**

### **PARAPHARYNGEAL SPACE:**

- Otherwise known as lateral **pharyngeal space, pharyngo maxillary space.**
- Forms an inverted cone with base bounded by petrous part of temporal bone and apex lies at the level of hyoid bone.
- Styloid process divides the compartment into 2 spaces:
  - I. **Pre-styloid compartment-** which contains fat, connective tissue, maxillary artery, inferior alveolar nerve, lingual nerve, auriculo temporal nerve.
  - II. **Post styloid compartment** – carotid sheath and its contents, glossopharyngeal nerve, sympathetic chain, hypoglossal nerve, lymph nodes.

### **RETROPHARYNGEAL SPACE:**

- It lies between the middle layer of deep cervical fascia and alar component of deep layer.
- It extends from skull base to tracheal bifurcation.



- Midline raphe is formed in midline by the attachment of superior constrictor muscle to alar fascia.

### **DANGER SPACE:**

- It is space between the alar component of deep layer of deep cervical fascia and deep layer of deep cervical fascia.
- Extends from skullbase to diaphragm.

### **SUBMANDIBULAR SPACE:**

- It is bound anteriorly by floor of mouth mucosa, mandible laterally and anterior and posterior bellies of digastric forms the anteroinferior and posteroinferior boundaries.
- Mylohyoid muscle divides the space into sublingual and submandibular space.

### **MASTICATOR SPACE:**

- Bound by pharyngeal mucosa medially and medial surface of ramus of mandible laterally.

### **VISCERAL SPACE:**

- It is formed by middle layer of deep cervical fascia which envelops the thyroid and trachea and the deep layer of deep cervical fascia

- It consists of larynx, hypopharynx, proximal trachea, and oesophagus.

### **CAROTID SPACE:**

- It is the space formed by the carotid sheath which is formed by all 3 layers blending together.
- It contains common carotid artery, internal jugular vein and vagus nerve.

### **PAROTID SPACE:**

- It is formed by superficial layer of deep cervical fascia that splits to cover the parotid.
- It contains facial nerve, external carotid artery and retro mandibular vein.

### **ACUTE TONSILLITIS:**

- It is caused by acute inflammation of mucosa, crypts and tonsillar parenchyma.

Clinical features: It is diagnosed mostly by clinical examination. There is history of sore throat with throat pain and fever with myalgia.

### **Examination of oropharynx:**

Examination reveals erythema of tonsils and posterior wall of oropharynx. Crypts can be seen filled with pus as in follicular tonsillitis. Follicles may coalesce to form membrane over the tonsil condition termed as membranous tonsillitis.

**FIGURE 6: ACUTE TONSILLITIS**



**FIGURE 7: ACUTE MEMBRANOUS TONSILLITIS**



### **Examination of neck:**

Examination of neck reveals enlarged and tender jugulodigastric nodes which are known as **Wood's node**.

### **INVESTIGATIONS:**

Throat swab for culture and sensitivity.

Peripheral smear to rule out hematopoietic disorders like leukemia, agranulocytosis.

### **MANAGEMENT:**

- It includes mainly symptomatic management- using analgesics and adequate hydration till symptoms subside.
- Antibiotics will shorten the illness and reduces the risk of squeal.
- Corticosteroids provide symptomatic relief of throat pain but not often used
- Tonsillectomy may be considered in patients who fulfil the PARADISE CRITERIA.

### **PERITONSILLAR ABSCESS(QUINSY):**

- The peritonsillar space is seen lateral to the palatine tonsil and medially lies the superior constrictor muscle. The space contains loose areolar tissue. Accumulation of pus in this space is known as peritonsillar abscess.
- Quinsy is often described as part of a spectrum of disease from tonsillitis to peritonsillar cellulitis culminating in peritonsillar abscess.
- There exists direct communication between the peritonsillar space to parapharyngeal space and retropharyngeal space. Any peritonsillar abscess if left untreated may spread to parapharyngeal and retropharyngeal space by direct extension, via lymphatics , blood vessels which passes through the superior constrictor muscle.
- Most peritonsillar abscesses resolve with antibiotics and surgical drainage of pus at the earliest to prevent complications.

### **Source of infection:**

- **Tonsillitis** is the main source of infection.
- Acute tonsillar enlargement may be a localised episode caused by upper respiratory tract infection or due to systemic infections like infectious mononucleosis.

- Most common organism is the **Group A beta- haemolytic Streptococcus (GABHS)** followed by Haemophilus influenza, Staphylococcus aureus, alpha haemolytic streptococci and viruses like adeno and Epstein bar virus.

**WEBER GLANDS**- etiology of peritonsillar abscess.

- Weber glands are group of 20 to 25 mucus glands which are situated in the superior pole of tonsillar bed and the soft palate and are connected to surface of tonsil by a duct.
- These glands aids in clearing the debris trapped in tonsillar crypts and also assist in digestion of food particles trapped in crypts.
- In case of infections glands become inflamed leading to formation of local cellulitis.
- As the infection progresses, duct leading to tonsillar surface become progressively obstructed by surrounding inflammation. The resulting tissue necrosis and pus formation produce the characteristic features which is clinically indistinguishable from those of a tonsillar infection.
- Other clinical variables include periodontal disease, smoking and diabetes mellitus.



### **CLINICAL FEATURES OF PTA:**

- Patients appear ill and dehydrated present with fever, general malaise, body pain and headache.
- Patient may also have severe throat pain more on the affected side.
- Halitosis , trismus- due to spasm of pterygoid muscles.
- Odynophagia which may cause pooling of saliva or drooling of saliva , referred otalgia to the ipsilateral ear.
- Hot potato voice- muffled and thick speech.
- Patient may also have marked cervical lymphadenitis which is tender and palpable in the affected side.

Inspection of oropharynx shows swollen and erythematous anterior tonsillar pillar and soft palate overlying the infected tonsil. Tonsil is enlarged but appears buried in and hidden behind the edematous anterior pillar with contra lateral deviation of uvula. Patient also has torticollis- head tilted towards the side of abscess.

## **DIAGNOSIS:**

- Patient may also present with **Peritonsillitis** where the area between tonsillar capsule and superior constrictor is oedematous but pus has not formed yet. They have the tendency to progress to PTA. On occasions when diagnosis is uncertain, presence of pus on aspiration using needle and radiology confirms the diagnosis of Peritonsillar abscess.
- Transcutaneous or intra oral ultrasound helps in distinguishing peritonsillitis from peritonsillar abscess.
- Role of Computed Tomogram (CT) and Magnetic Resonance Imaging (MRI) are essential in cases when infection spread beyond peritonsillar space into parapharyngeal space or retro pharyngeal space and mediastinitis are suspected.
- Magnetic Resonance Imaging (MRI) has an advantage of improved soft tissue definition without radiation exposure compared to computed tomogram. It is superior in detecting complications like internal jugular vein thrombosis or erosion of abscess into carotid sheath. Disadvantages being high cost, longer duration of scanning, potential for claustrophobia.

## **TREATMENT:**

Medical management includes-

- immediate hospitalisation for intra venous fluids to combat dehydration
- Higher antibiotic to cover aerobic and anaerobic infections.
- Analgesics and antipyretics.
- Hydrogen peroxide, betadine mouthwashes.

## **SURGICAL MANAGERMENTS:**

### **INCISION AND DRAINAGE:**

With the help of **St Claire Thompson Quinsy forceps** or 22 size blade - a small stab incision is made in the region of maximum fluctuating and bulging point of the abscess or at the junction of a horizontal line running through the base of uvula and a vertical line running along the anterior pillar of tonsil abscess is drained. Needle aspiration can also be done to evacuate the pus and to confirm the diagnosis. Incision and drainage has the advantage of complete drainage of pus.

**FIGURE 8: LEFT PERITONSILLAR ABSCESS SHOWING PUS**  
**ON NEEDLE ASPIRATION.**



**FIGURE 9: POST INCISION AND DRAINAGE IMAGE OF LEFT**  
**PERITONSILLAR ABSCESS**



### **HOT TONSILLECTOMY:**

- Immediate tonsillectomy(Hot tonsillectomy) which is done immediately when patient presents with abscess, so that tonsils will be removed to open up peritonsillar space.
- At present abscess tonsillectomy is not done routinely for the fear of hemorrhage.

### **INTERVAL TONSILLECTOMY:**

- It is the preferred method of tonsillectomy.
- After incision and drainage and adequate antibiotic management patient can be planned for tonsillectomy 4-6 weeks after the attack of quinsy.
- By 6 weeks, inflammation would have settled and risk for hemorrhage is less

## **COMPLICATIONS:**

- Spread of infection to parapharyngeal space causes parapharyngeal abscess
- Infection spreading to retropharyngeal space causes retropharyngeal abscess.
- Mediastinitis.
- Aspiration pneumonitis and lung abscess secondary to abscess rupture.
- IJV thrombosis
- Septicaemia.
- Post streptococcal sequel.
- Rarely airway obstruction which may necessitate tracheostomy.

**FIGURE 10: CLINICAL IMAGE OF LEFT PERITONSILLAR**  
**ABSCCESS**

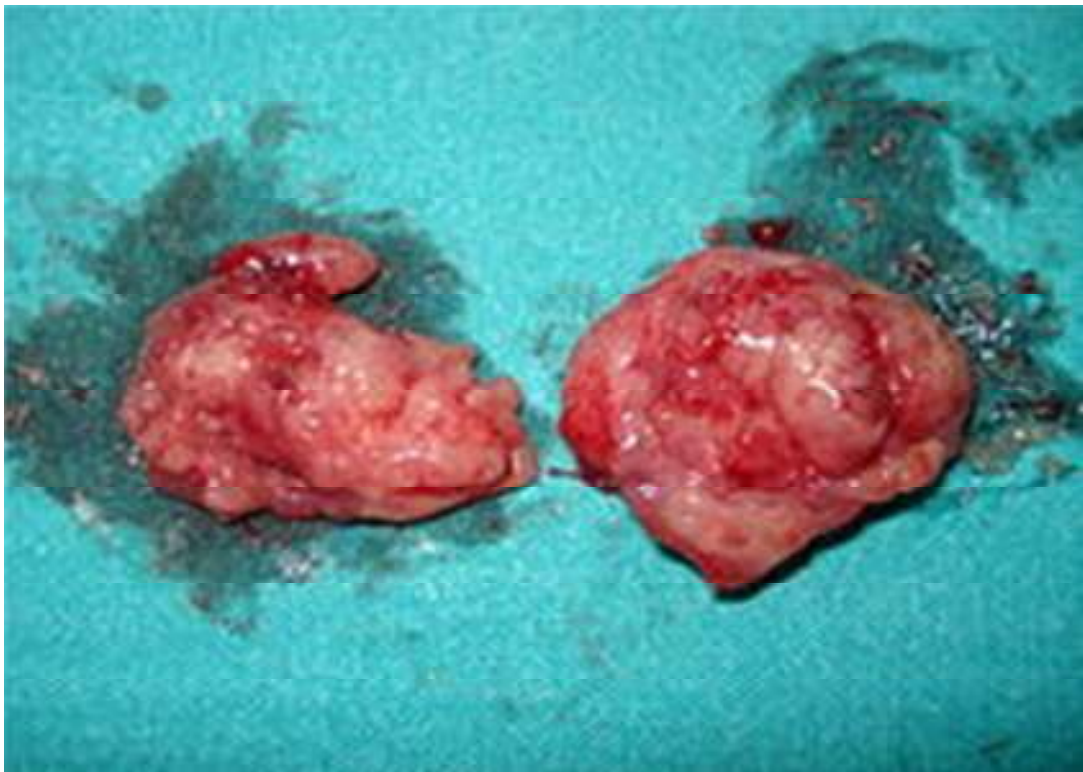




**FIGURE 11: CLINICAL IMAGE OF LEFT PERITONSILLITIS**



**FIGURE 12: SPECIMEN OF TONSIL AFTER INTERVAL**  
**TONSILLECTOMY**



**FIGURE 13: CUT SECTION OF RIGHT TONSIL TO SHOW THE  
CRYPTA MAGNA**



## **MATERIALS AND METHODS**

**Study design:** Prospective study

**Study population:**

All suspected cases of peritonsillar abscess presenting in Department of ENT, Coimbatore medical college hospital, Coimbatore.

**Sample size:** 30 cases.

**Duration:** January 2018- December 2018 - One year- 12 Months

**Selection Criteria**

**Inclusion criteria for cases:**

1. All age groups
2. Any Gender
3. Patients suspected as Peritonsillar Abscess, who are giving consent.
4. Patients suspected as Peritonsillitis, who are giving consent.

**Exclusion criteria for cases:**

1. Patients suspected as having Peritonsillar Abscess and Peritonsillitis without giving consent.

## **METHODOLOGY:**

- Suspected patients with peritonsillitis or peritonsillar abscess attending our ENT OPD from a period of January 2018 to December 2018 and who are all willing for the study are included.
- Preliminary needle aspiration is done. This is done using a wide bore needle and aspiration is done in the most fluctuant part of the bulge. In case of abscess frank pus will be aspirated. If not then the diagnosis of peritonsillitis is made.
- Needle aspirated pus in case of PTA and tonsillar swabs in cases of peritonsillitis are taken and sent for culture and sensitivity study.
- Most patients with peritonsillitis and PTA have fever and are dehydrated. They may also have severe trismus, dysphagia and odynophagia. So these patients are admitted and intra venous fluids to correct the dehydration, along with antibiotics mostly injection ampicillin/ intra venous cephalosporins and analgesics.
- Using St Claire Thompson's Quinsy forceps a stab incision is made in the region of maximum bulge or in the junction of vertical line running through the anterior pillar and horizontal line passing through the base of uvula. Pus is drained.

- Oral hygiene is maintained by betadine and hydrogen peroxide mouth washes.
- Patient is then planned for interval tonsillectomy.
- Blood investigations- complete hemogram, total and differential counts, renal function test, chest x-ray(CXR), electrocardiogram are taken and anaesthesia assessment is obtained.
- Interval tonsillectomy is planned after 6 weeks of PTA.
- Patient is then discharged after the symptoms subside and advised to review after 6 weeks for surgery.

## **SURGERY:**

### **TONSILLECTOMY:**

- Under general anaesthesia patient put in rose's position.
- Mouth opened and Boyle Davis mouth gag with tongue blade is applied and fixed with M sling.
- Using tonsil holding vulsellum medial surface of tonsil is pulled medially.
- Using Waugh's forceps mucosal incision made in the line of reflection of anterior pillar and tonsillar capsule.
- Plica semilunaris identified and cut using curved scissors and superior pole is released.
- Blunt dissection is carried out from superior to inferior pole along the plane of loose areolar tissue.
- Inferior pedicle is reached and crushed and cut with Eve's tonsillar snare.
- Tonsillar fossa packed with cotton balls.
- Opposite side tonsil is removed similarly and fossa is packed with cotton balls.

- After 10 minutes cotton balls removed and tonsillar fossa inspected for any bleeding. In case of bleeding, the bleeding points are cauterised.
- After ensuring complete hemostasis, mouth gag released and left for sometime.
- Oropharynx then re examined after few minutes for any bleeders. In case of complete hemostasis mouth gag removed.
- Patient weaned and extubated.
- Both tonsils are sent for histopathological examination to compare the peritonsillar infected side and normal side.
- Crypt length measurements are done to see if there is disparity which leads to PTA unilaterally.

**Histopathological examination:** the normal side of the tonsil is compared with previously peritonsillar abscess infected tonsil to find any discrepancies in term of crypt length which might have lead to peritonsillar abscess to occur unilaterally. Crypt measurements are done using myotome.



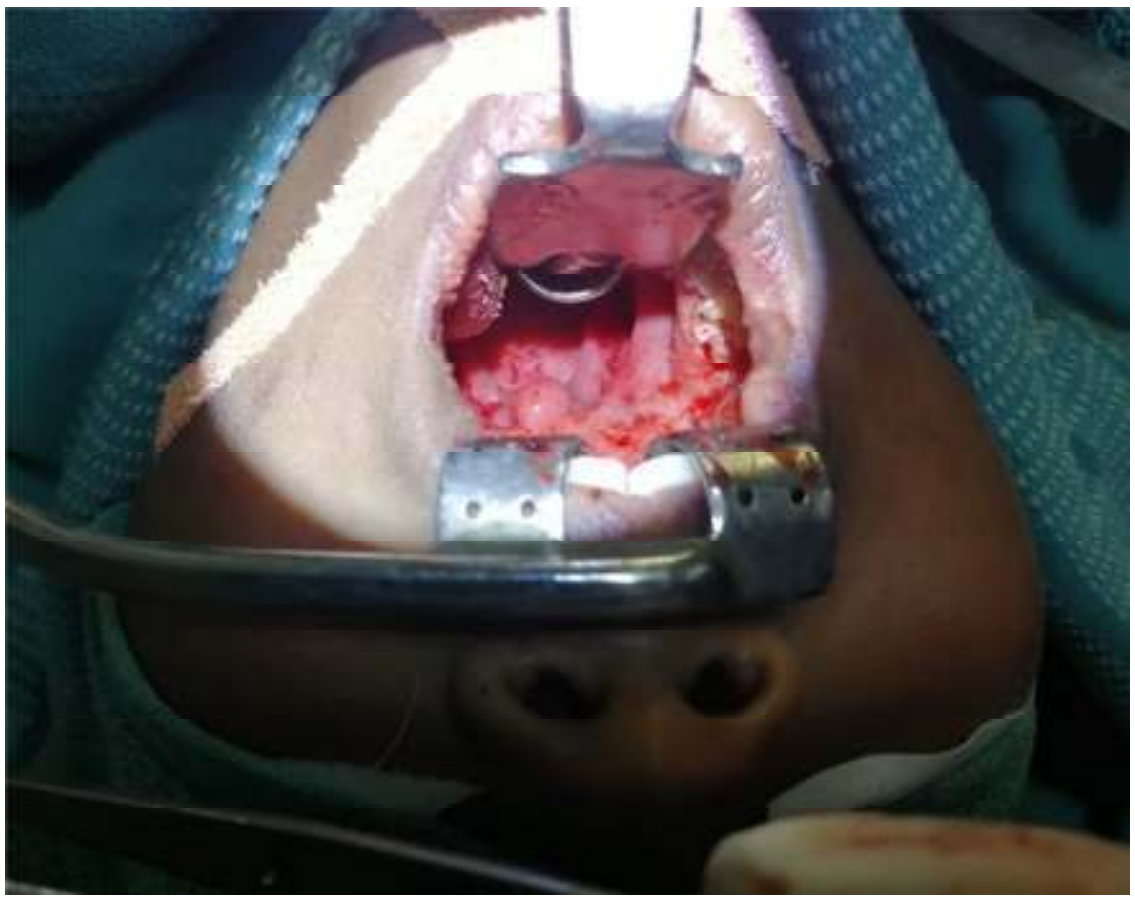
**FIGURE 14: SISTER ROSE POSITION FOR TONSILLECTOMY**



**FIGURE 15: TONSILLECTOMY**



**FIGURE 16: INTRA OPERATIVE IMAGE OF**  
**TONSILLECTOMY**

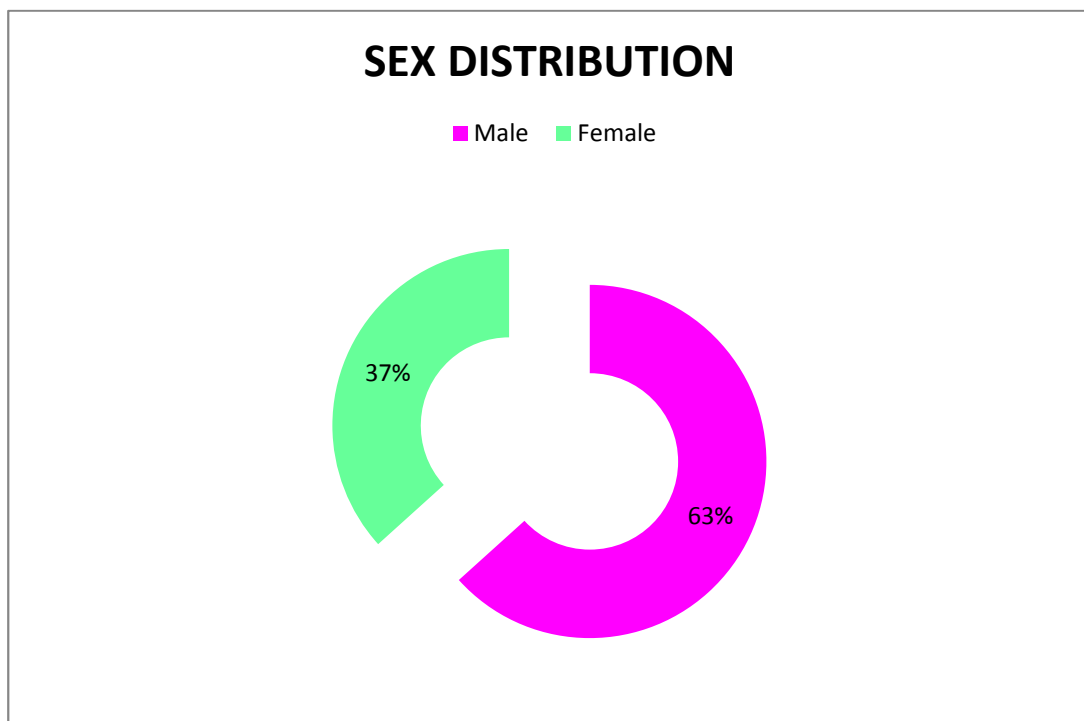


## **RESULTS**

**TABLE 2- COMPARISON BETWEEN MALE AND FEMALE**

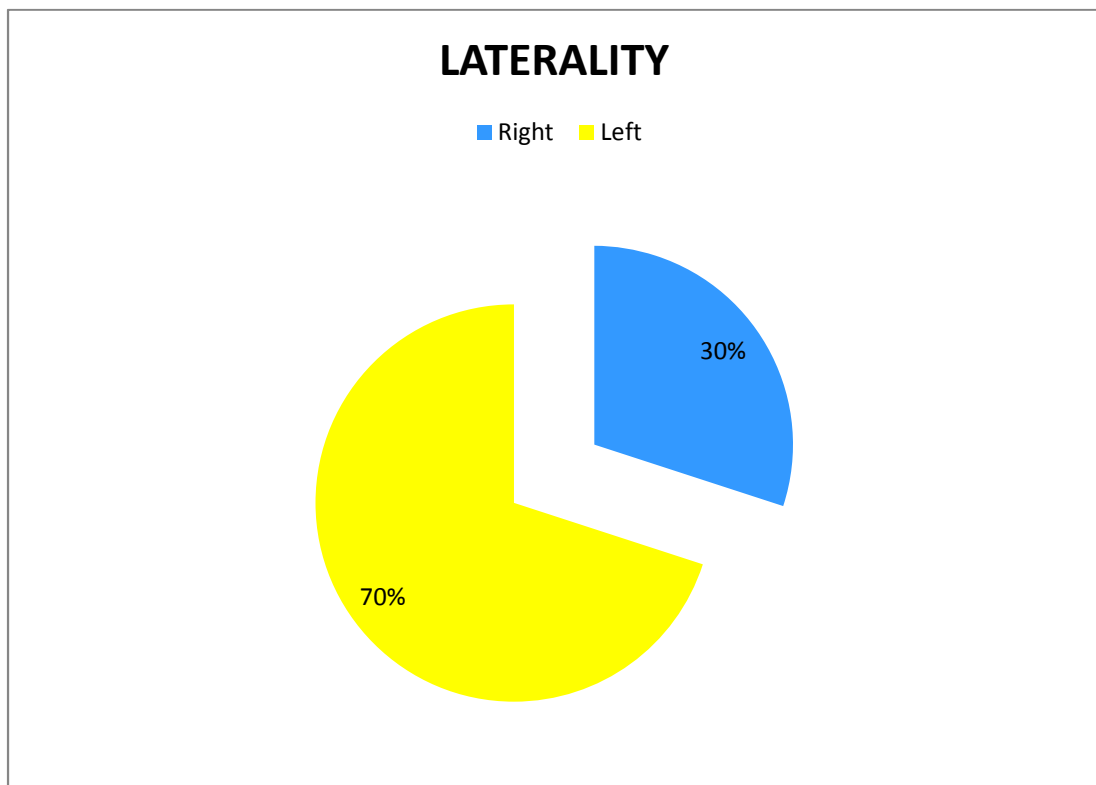
### **GENDER**

Sex	Frequency	Percentage(%)
Male	19	63.3
Female	11	36.7
Total	30	100



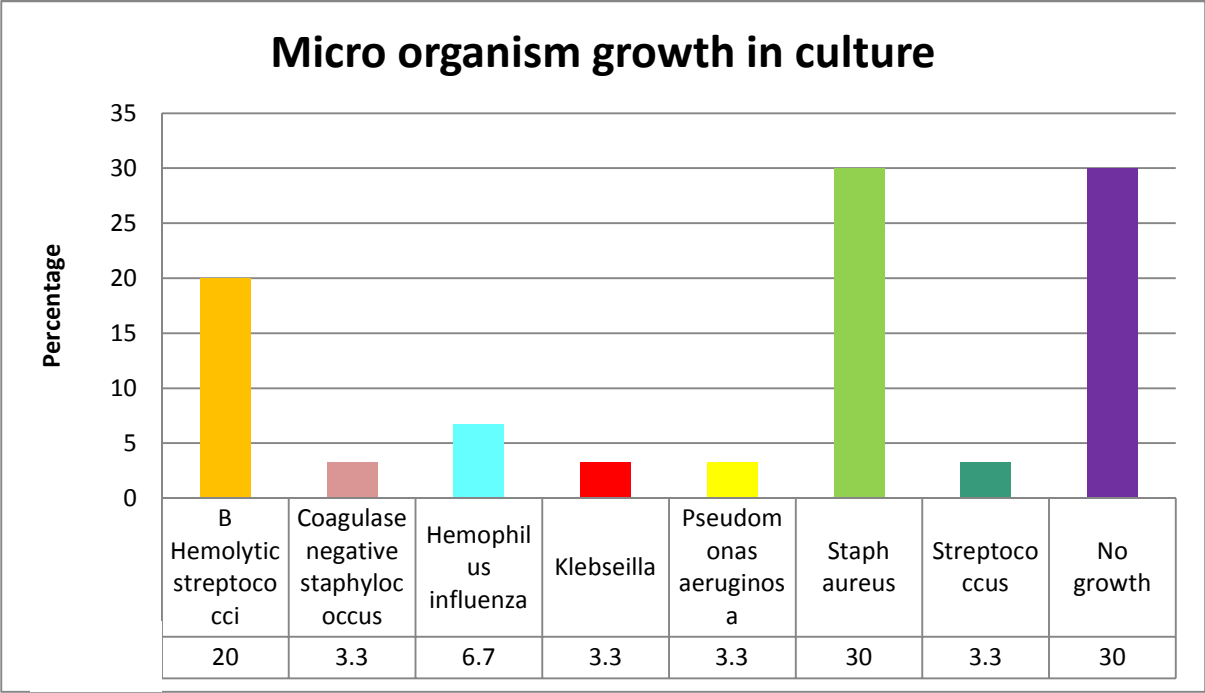
**TABLE 3: COMPARISON OF LATERALITY OF QUINSY.**

<b>Laterality</b>	<b>Frequency</b>	<b>Percentage</b>
Right	9	30
Left	21	70
Total	30	100



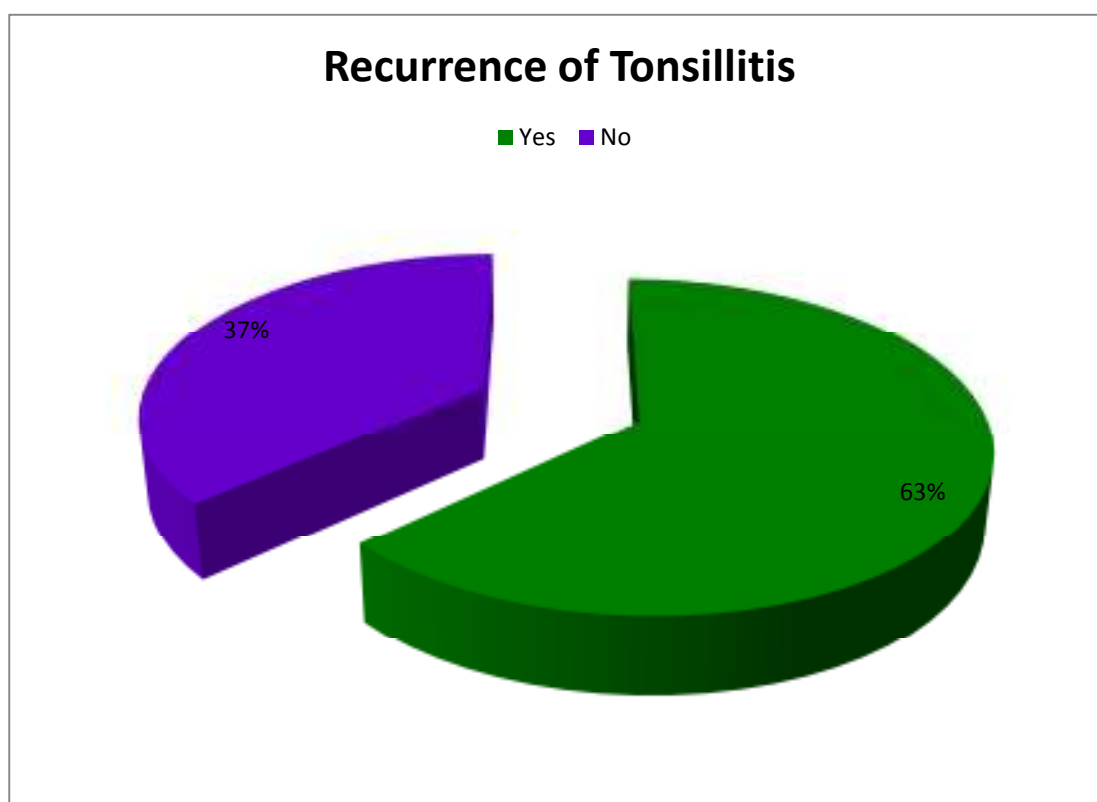
**TABLE 4: FREQUENCY OF MICROBIOLOGICAL CULTURE**  
**OF PUS.**

<b>S.No.</b>	<b>Growth</b>	<b>Frequency</b>	<b>Percent</b>
1.	B Hemolytic streptococci	6	20
2.	Coagulase negative staphylococcus	1	3.3
3.	Hemophilus influenza	2	6.7
4.	Klebseilla	1	3.3
5.	Pseudomonas aeruginosa	1	3.3
6.	Staphylococcus aureus	9	30
7.	Streptococcus pyogenes	1	3.3
8.	No growth	9	30
	Total	30	100



**TABLE 5: FREQUENCY OF RECURRENT EPISODES OF  
TONSILLITIS.**

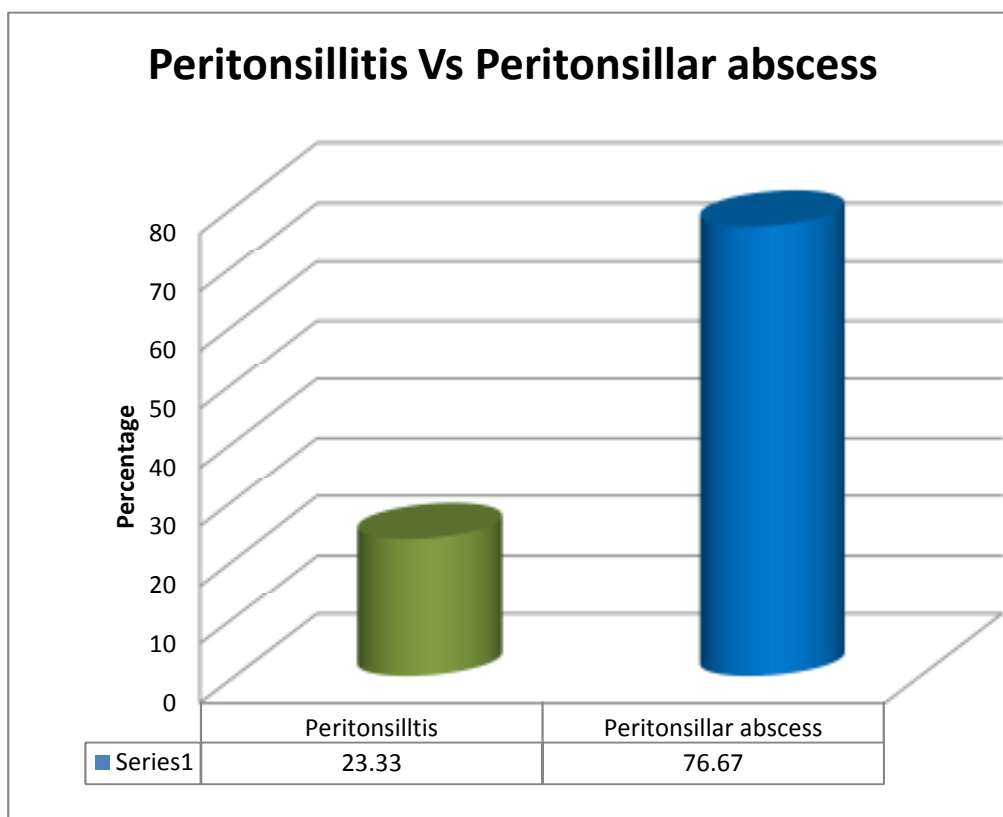
<b>Episodes</b>	<b>Frequency</b>	<b>Percentage(%)</b>
Yes	19	63.3
No	11	36.7
Total	30	100





**TABLE 6: FREQUENCY OF CASES PRESENTING WITH**  
**PERITONSILLITIS AND PERITONSILLAR ABSCESS**

S.No	Number of cases of peritonsillitis	Number of cases of peritonsillar abscess	Total
1.	7	23	30



**TABLE 7: MEAN AGE OF OCCURENCE AND CRYPT LENGTH**

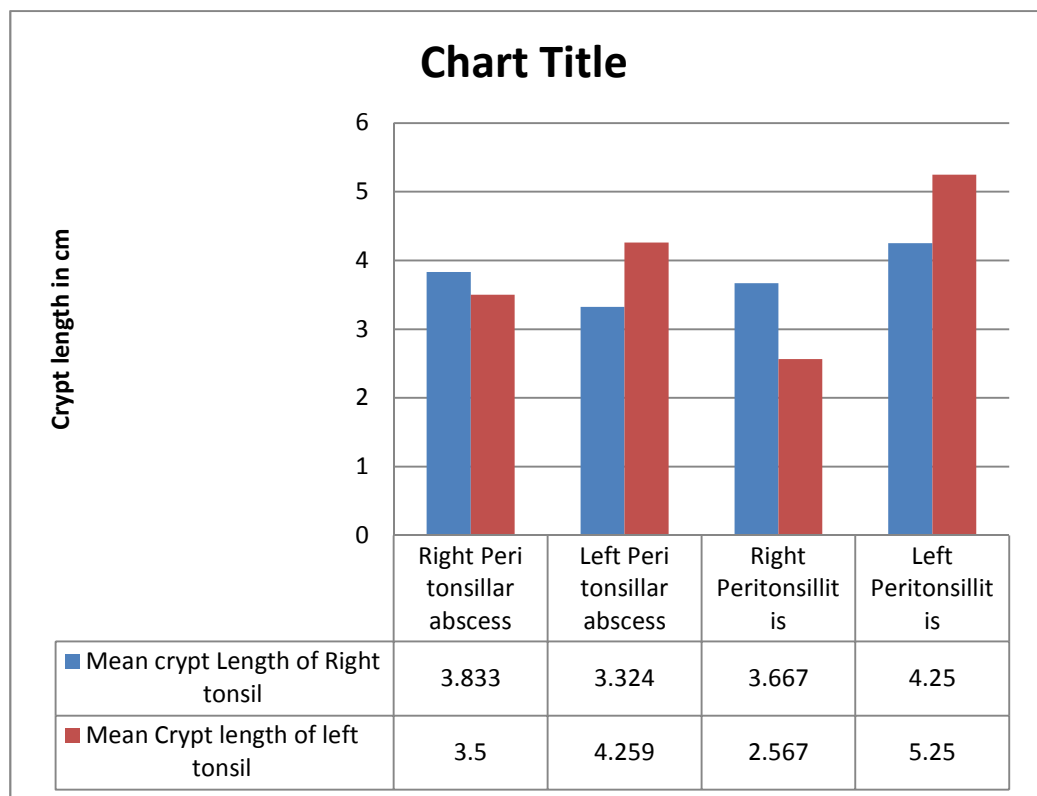
<b>Variables</b>	<b>Mean(N=30)</b>	<b>Std. Deviation(N=30)</b>
Age(years)	27.47	14.330
Crypt length of right tonsil(mm)	3.583	1.3963
Crypt length of left tonsil(mm)	4.070	1.6805

The mean age of study population is 27.47

The mean Crypt length of right tonsil is 3.583mm

The mean Crypt length of Left tonsil is 4.070mm

## CHART COMPARING THE MEAN CRYPT LENGTH OF RIGHT AND LEFT TONSIL

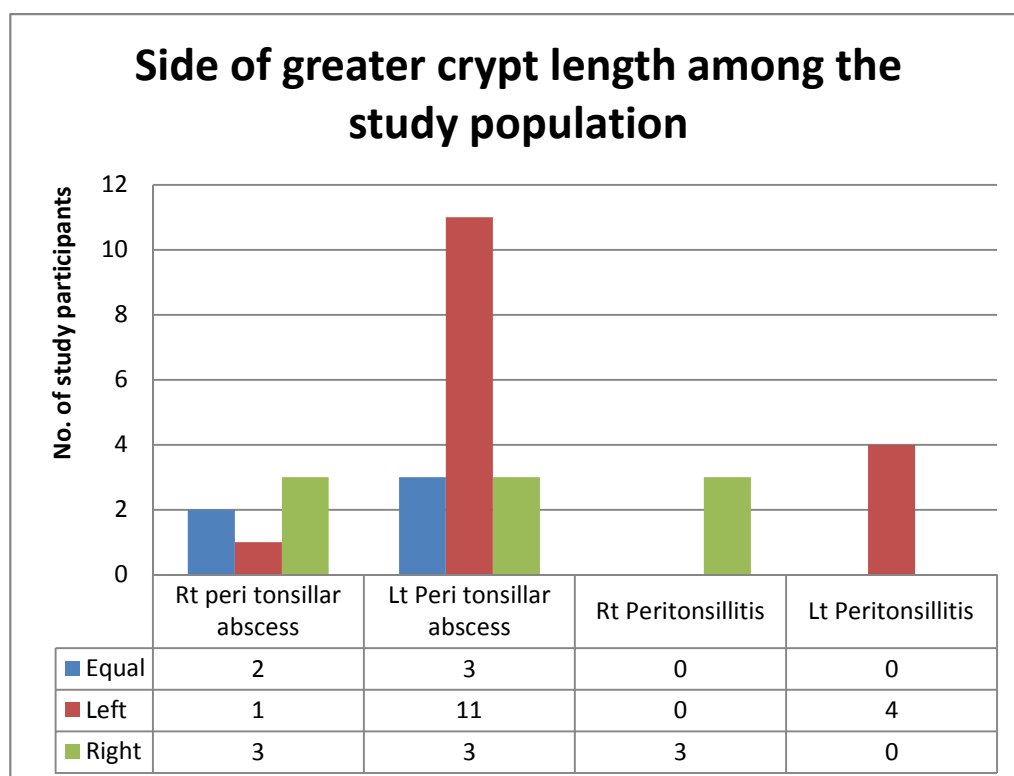


**TABLE 8: P VALUE OF CRYPT LENGTH OF TONSIL**

S.No.	Category		Mean $\pm$ SD	P value
1.	Right peritonsillar abscess	Crypt length of Right tonsil	3.833 $\pm$ 1.72	0.576
		Crypt length of Left tonsil	3.500 $\pm$ 1.87	
2.	Left Peritonsillar Abscess	Crypt length of Right tonsil	3.324 $\pm$ 1.39	0.019
		Crypt length of Left tonsil	4.259 $\pm$ 1.62	
3.	Right Peritonsillitis	Crypt length of Right tonsil	3.667 $\pm$ 1.15	0.008
		Crypt length of Left tonsil	2.567 $\pm$ 1.25	
4.	Left Peritonsillitis	Crypt length of Right tonsil	4.250 $\pm$ 1.25	0.016
		Crypt length of Left tonsil	5.250 $\pm$ 1.19	

There is statistically significant association between crypt length of right and left tonsil in left peritonsillar abscess, right peritonsillitis and left peritonsillitis

## CHART SHOWING THE COMPARISON OF CRYPT LENTH ON BOTH SIDES



There is statistically significant association between Side of peritonsillar abscess, Peritonsillitis and side of greater crypt length (p=0.019)

## **DISCUSSION**

This study was intended to make a detailed study of peritonsillar abscess to compare the age, gender, laterality, risk factors, microbiology of peritonsillar abscess and comparison of length of crypta magna to find any correlation for the occurrence of peritonsillar abscess unilaterally.

- The study is a prospective study which included 30 patients who were diagnosed with peritonsillitis and peritonsillar abscess.
- Out of the 30 patients, 19 patients were male and 11 patients which showed that males had higher probability for peritonsillar abscess. Mean age of presentation about 27.47 years, which was consistent with the previous findings in literature in the study conducted by **Nurullah seyhum et al**, showed 61% were male and 38.5% were female with a mean age of presentation 29.9 years. Similarly in the study conducted by **Maria costales marcos et al** also was in favour of male gender with a ratio of 1.1:1 when compared with females. A study by **Khan et al** shows male to be predominantly affected.

In the study by **Ishmail khan et al** showed male gender (70%) outnumbering the female patients(30%).

➤ Laterality of occurrence of peritonsillar abscess was **left sided** with 21 patients presenting as left sided peritonsillar abscess/peritonsillitis and right sided peritonsillitis/peritonsillar abscess in 9 patients with 70% of cases of peritonsillar infection occurring in left side.

**Ishmail khan et al** in his studies showed left side being the most common when compared to right.

A study by **Khan MI et al** recorded left sided preponderance.

In the study made by **Mazur et al** showed laterality to left to be predominant which was similar to the studies conducted by Hanna **et al** and **Costales et al**. **Tal marom et al** study on ‘changing trends of peritonsillar abscess’ always showed the left laterality to be predominant.

This was in contrast to study done by **Richa gupta et al** which showed right side being most commonly affected.

➤ **Recurrent previous infection of tonsillitis** was seen in 19 patients and hence the prior tonsillar infection contributed to 63.3% of the patients.

In the study of **Ying-Piao-Wang** in ‘The impact of prior tonsillitis and treatment modality on recurrence of peritonsillar abscess’ showed the risk

of prior tonsillitis had 2.82 fold increase risk of peritonsillar abscess and its recurrence.

**Ishmail khan et al** showed that majority of patients 73.35% showed history of prior tonsillar infection.

**Mazur et al** in his study showed recurrent tonsillitis to be an important factor for pathogenesis for peritonsillar abscess. In his study 35.5% of patients had history of recurrent tonsillitis. Also among the patients with recurrent tonsillitis, more cases are treated with oral or intra venous antibiotics prior to hospitalisation when compared to rest of population.

**Powell et al** hypothesized that there are presumably two pathologically distinct peritonsillar abscess types.

- Type-I occurs in patients without recurrent pharyngotonsillitis which contains a pure culture of single organism.
- Type-II is associated with prior history of recurrent pharyngo tonsillar infection which in turn displays polymicrobial growth and may contain ananerobes.
- Hence type II presentations are severe, underlying with chronic underlying microflora imbalance due to prior antibiotic use.



- **Bacteriological culture of the pus from peritonsillar abscess** showed growth of staphylococcus aureus in maximum pus culture and no growth for 9 cases. No growth might indicate the use of prior antibiotic before coming to our institution. It is then followed by Beta Haemolytic Streptococcus, Hemophilus influenza, Pseudomonas aeruginosa, Klebsiella species and coagulase negative Staphylococcus.

In the study made **Shilpa et al** showed most commonly isolated bacteria was beta haemolytic streptococcus followed by staphylococcus aureus. Other isolates were alpha haemolytic streptococci, Escherichia coli, Klebsiella, Pseudomonas, Actinobacter.

In a clinical bacterial study of peritonsillar abscess by **Verghese et al** most common aerobic organism was group A beta haemolytic streptococcus, anaerobic culture showed Peptostreptococcus as the most common isolate.

A study by **Sakae et al** showed most common aerobic isolate was streptococcus sp, with streptococcus pyogenes being common.

- Penicillin's are the first choice of drugs. **Snow et al** showed that penicillin is effective in the majority of cases and that it should be used as the initial antibacterial agent in non allergic patients.

**Ophir et al.** assumed that removal of pus containing high levels of beta-lactamase enables the subsequently administered penicillin to eradicate the susceptible bacteria, thus accounting for the remarkably high success rate of using penicillin. However, the situation is different today. The increase of beta-lactamase-producing organisms has limited the use of penicillin.

- In view of the mixed flora that cause peritonsillar abscess and the increasing number of beta-lactamase-producing microorganisms, the use of antibiotics active against beta-lactamases has become more popular in clinical practice.
- For these reasons, the antibiotics recommended today are Clindamycin, Augmented Penicillin, and either Penicillin or Cephalosporin plus Metronidazole. However, if we distinguish penicillin-sensitive organisms from penicillin-resistant organisms at the time of initial treatment, penicillin can still be a good choice.

A study by **Sowerby et al** only 7% patients had no growth. Streptococcus, either alone or in combination with other bacteria was the common pathogen identified.

A study by **Gandhi et al** showed group A beta haemolytic streptococcus being common followed by staphylococcus.

In the study by **Flavio et al** showed streptococcus pyogenes and staphylococcus aureus to be common isolated pathogens.

- Out of 30 patients, 76% of patients presented with peritonsillar abscess and other cases were peritonsillitis. Only 7 patients presented with peritonsillitis rest of the study population presented as abscess. Peritonsillar abscess patients underwent incision and drainage for complete drainage of pus.
- Out of 30 cases, 1 presented with **parapharyngeal abscess** which showed the percentage of occurrence of complication to be 3.33%. **Ishmail khan et al** in his study of 42 patients, had 2 patients with complications namely one with parapharyngeal abscess and other with airway obstruction due to supraglottic edema(3.33%).
- Most patients post incision and drainage recovered quickly with **mean hospital stay of 3 days**. One patient who presented with parapharyngeal space infection had a longer course of stay.

**Vikram kulkarni et al** showed a mean hospital stay of 3 days in his study population after incision and drainage.

**Ishmail khan et al** in his study showed the mean hospital stay was 2 days.

- Anatomical **comparison of crypt length** showed mean crypt length of right side tonsil 3.5cm and left side tonsil to be 4cm. There is statistically significant association of peritonsillar abscess and peritonsillitis on the side of greater crypt length. Also the left sided peritonsillar abscess is more common as the crypt length is higher in left side tonsil when compared to right.

## **SUMMARY**

- Peritonsillar abscess is one of the most common infections of head and neck region accounting for 30% of soft tissue infection.
- They generally progress from tonsillitis to peritonsillitis and ultimately abscess formation.
- Factors predisposing to the development of peritonsillar abscess described in the literature are bad periodontal status, smoking, previous recurrent tonsillitis.
- Our study is mainly done to find out the anatomical factor as a cause for the spread of infection from the substance of the tonsil in to the peritonsillar space via crypta magna.
- Imaging is required in advanced parapharyngeal or retropharyngeal infection, whereas imaging is not routinely performed in uncomplicated peritonsillar abscess. Confirmation of peritonsillar abscess is done by wide bore needle aspiration.
- Treatment is always done by incision and drainage of purulent content, re-hydration and subsequent antibiotic therapy mostly injection Ampicillin or intra venous cephalosporins.

- Pain relief is vital in the management of peritonsillar abscess, and analgesia should be titrated to symptomatic relief.
- Intravenous fluid may also be needed in those unable to take sufficient oral intake or with clinical or biochemical signs of dehydration.
- While surgical intervention may be done by incision and drainage to remove the majority of pus in peritonsillar abscess.
- Antibiotics are usually recommended to clear the remaining and disseminated infection.

## **CONCLUSION**

Peritonsillar abscess is a relatively common cause for emergency admission to an otolaryngology ward. This clinical condition requires immediate treatment because of the possibility of infection spreading to the parapharyngeal space, retropharyngeal space and IJV thrombosis. The study shows that there is a significant relationship of crypt length of the tonsil and the frequency of peritonsillar abscess to occur (p value-0.015). The crypt may probably act as a channel for the infection to spread from infected tonsillar substance to peritonsillar space. There is no previous study in literature comparing the crypt length of tonsil and occurrence of peritonsillar abscess. This study concludes the deeper the crypt the more likely for abscess to occur. This study also highlights that the abscess occurs more in males, with recurrent tonsillitis being the main risk factor, for no obvious reasons the PTA is found to occur more commonly in left side. Bacteriology of pus showed growth of *Staphylococcus aureus* which was in contrary to the most common bacterium *Streptococcus Sp.* Patients were started on injection ampicillin for which they responded well with mean hospital stay of 3 days.

## **ANNEXURE I**

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## ANNEXURE II

### ஒப்புதல் படிவம்

நோயாளியின் பெயர்:

பாலினம் :

வயது :

பெற்றோர் பெயர் :

முகவரி :

அரசு கோவை மருத்துவக் கல்லூரியில் பொதுமருத்துவ துறையில் பட்ட மேற்படிப்பு பயிலும் மருத்துவர் கோ.திவ்யப்ரியா அவர்கள் மேற்கொள்ளும் ஆய்வில் செய்முறை மற்றும் அனைத்து விளக்கங்களையும் கேட்டுக் கொண்டு எனது சந்தேகங்களை தெரிவுபடுத்திக் கொண்டேன் என்பதை தெரிவித்துக் கொள்கிறேன்.

இந்த ஆய்வில் நான் முழு சம்மதத்துடனும், சுயசிந்தனையுடனும் கலந்து கொள்ள சம்மதிக்கிறேன்.

இந்த ஆய்வில் என்னைப் பற்றிய அனைத்து விவரங்கள் பாதுகாக்கப்படுவதுடன் இதன் முடிவுகள் ஆய்விதழில் வெளியிடப்படுவதில் ஆட்சேபனை இல்லை என்பதை தெரிவித்துக்கொள்கிறேன். எந்த நேரத்திலும் இந்த ஆய்விலிருந்து நான் விலகிக் கொள்ள எனக்கு உரிமை உண்டு என்பதையும் அறிவேன்.

இடம் :

தேதி :

கையொப்பம் / ரேகை

## **CONSENT FORM**

I Mr. / Mrs. / Master/ Miss. \_\_\_\_\_

aged \_\_\_\_\_ years, S/D/o \_\_\_\_\_ residing at

\_\_\_\_\_

is requested to be a participant in the study titled “**COMPREHENSIVE STUDY OF PERITONSILLAR ABSCESS IN COIMBATORE MEDICAL COLLEGE**” conducted by Dr. DIVYA PRIYA. G, a postgraduate trainee in the department of ENT, Coimbatore Medical College Hospital, Coimbatore. I understand that I am eligible for the study as per the inclusion criteria , and also assure that I will answer any question and give any clarification about the study by agreeing to participate in this study.

### **TOPIC OF RESEARCH**

COMPREHENSIVE STUDY OF PERITONSILLAR ABSCESS IN  
COIMBATORE MEDICAL COLLEGE

### **PURPOSE OF RESEARCH:**

1. To list the frequency of PTA by age, sex.
2. To study the bacteriology of PTA.
3. To compare the side of common occurrence.

4. Comparison of crypt length of peritonsillar infected tonsil and normal tonsils and to find if there is significant association.

## **PROCEDURES INVOLVED IN THE STUDY**

30 patients presented to ENT out patient department with peritonsillar abscess/ peritonsillitis were selected . Age, sex, laterality, bacteriology of pus culture were taken. Incision and drainage was done and peritonsillar abscess was treated with injection ampicillin. Then patients were planned for interval tonsillectomy and crypt length was compared between the normal side and previously PTA affected side.

## **DECLINING FROM PARTICIPATION**

You are hereby made aware that the participation in this study is purely voluntary and honorary, and you have all rights to decline from participating at any point of time prior to or during the study.

## **PRIVACY AND CONFIDENTIALITY**

You are hereby assured that your privacy is respected and all the information will be strictly confidential.



## **AUTHORISATION TO PUBLISH RESULTS**

The result may be published for scientific purposes or will be presented in scientific groups. In both the cases neither the identity will be revealed nor the privacy will be violated.

Signature/ left thumb impression of the patient

Station

Date

## **ANNEXURE III**

### **PROFOMA**

#### **COMPREHENSIVE STUDY OF PERITONSILLAR ABSCESS IN COIMBATORE MEDICAL COLLEGE**

##### **PATIENT DETAILS:**

CASE NO.:

PATIENT ID:

NAME:

AGE/SEX:

ADDRESS:

PRESENTING COMPLAINTS:

PAST HISTORY:

GENERAL EXAMINATION

TEMP:

HYDRATION:

## ENT EXAMINATION

### **THROAT**

#### EXAMINATION OF OROPHARYNX

#### NEEDLE ASPIRATION/ INCISION AND DRAINAGE

#### BASIC INVESTIGATIONS

- Complete hemogram:
- Renal function test:
- Bacteriology of pus culture.
- Xray chest/ Ecg

#### INTRA OPERATIVE FINDINGS:

#### HISTOPATHOLOGICAL ASSESSMENT OF CRYPT LENGTH:

#### RIGHT TONSIL:

#### LEFT TONSIL:

#### SIDE OF PERITONSILLAR ABSCESS/ PERITONSILLITIS:

#### POST OPERATIVE FOLLOW UP

S No	Name	Age	laterality	Peritonsillitis	Peritonsillar Abscess	Culture and Sensitivity	Crypt length of right tonsil	crypt length of left tonsil	side of greater crypt length	previous episodes of acute tonsillitis	recurrence of peritonsillitis/pta	complications
1	Razwan	15/M	left		L-Peritonsillar Abscess	Staph aureus	4mm	6mm	left	yes		
2	Kalli	43/F	left	L peritonsillitis		no growth	6mm	7mm	left	no		
3	Firoza	19/F	right		R-Peritonsillar Abscess	Staph aureus	7mm	7mm	equal	yes		
4	Ravi	29/F	left		L-Peritonsillar Abscess	Streptococcus	6mm	3.5mm	right	yes		
5	Sivaraman	32/F	left		L-Peritonsillar Abscess	B Hemolytic streptococci	1.5mm	4mm	left	no		
6	Mani	63/M	left		L-Peritonsillar Abscess	no growth	5mm	7mm	left	yes		
7	Rajan	26/M	right	R peritonsillitis		no growth	5mm	4mm	right	yes	1 episode	
8	Dakshin	16/M	right		R-Peritonsillar Abscess with membraneous tonsillitis	Staph aureus	4mm	3mm	right	yes		
9	Ahmad Rishad	8/M	left		L-Peritonsillar Abscess	B Hemolytic streptococci	4mm	6mm	left	no		
10	Anevar	17/M	left		L-Peritonsillar Abscess	Klebseilla	3mm	3mm	equal	yes		
11	Dharshini	13/F	left		L-Peritonsillar Abscess	no growth	5mm	5mm	equal	no		
12	Aruchamy	48/M	left		L-Peritonsillar Abscess	Staph aureus	3mm	4mm	left	yes	2 episodes	
13	Rajkumar	18/M	left		L-Peritonsillar Abscess	no growth	4mm	6mm	left	no		
14	Michael	13/M	left		L-Peritonsillar Abscess	Staph aureus	2mm	4mm	left	no		
15	mohammad ishmael	10/M	left		L-Peritonsillar Abscess	hemophilus influenza	3mm	3mm	equal	no		
16	Vinoth kumar	30/M	right		R- Peritonsillar abscess	no growth	3mm	2mm	right	yes		
17	Bharathi	34/m	left	L peritonsillitis		B Hemolytic streptococci	4mm	4.5mm	left	yes		
18	Kannan	28/m	left		L-peritonsillar Abscess	coagulase negative staphylococcus	5mm	6mm	left	yes	1 episode	
19	jeyanthi	38/f	right		R- Peritonsillar abscess	hemophilus influenza	3mm	3mm	equal	yes		
20	Karthikeyen	12/m	left		L-peritonsillar Abscess	B Hemolytic streptococci	1.5mm	4mm	left	no		
21	Sabari	48/f	right	R- Peritonsillitis		staph aureus	3mm	1.7mm	right	yes	1 episode	
22	madhumitha	10/f	left	L peritonsillitis		staph aureus	4mm	5mm	left	yes		
23	Sindu	31/f	left	L peritonsillitis		no growth	3mm	4.5mm	left	no		
24	Srini	21/m	right	R peritonsillitis		staph aureus	3mm	2mm	right	yes		
25	Ganesh	45/m	left		L-peritonsillar Abscess	pseudomonas aeruginosa	1.5mm	3mm		no		parapharyngeal abscess
26	Jeya	36/f	right		R- peritonailar abscess	B Hemolytic streptococci	2mm	4mm		yes		
27	riyas	7/m	left		L- peritonsillar abscess	no growth	2mm	1.4mm		no		
28	Lakshmi	38/m	left		L- peritonsillar abscess	B Hemolytic streptococci	3mm	5mm		yes		
29	Sundari	42/f	right		R- Peritonsillar abscess	no growth	4mm	2mm		yes	1 episode	
30	Chandru	34/m	left		L- peritonsillar abscess	Staph aureus	3mm	1.5mm		yes		