

## Original Research Article

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# Wide bore needle aspiration for peritonsillar abscess

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## ABSTRACT

**Background:** Peritonsillar abscess is the most common complication of acute tonsillitis.

**Methods:** A retrospective review was conducted to identify the cause, microbiology, management and outcomes of the peritonsillar abscess. Over a period of 4 years from September 2014 to September 2018, patients presenting with peritonsillar abscess to the Department of ENT, SMVMCH, Puducherry, who underwent wide bore needle aspiration at least once were included in this study. 45 patients were included in the study. Exclusion criteria were retropharyngeal and parapharyngeal abscess.

**Results:** Among 45 patients, 18 were males and 27 were females. Two patients presented with bilateral peritonsillar abscess. 40 patients responded well with initial wide bore needle aspiration and IV antibiotics, with no postoperative complications. 5 patients needed incision and drainage under local anaesthesia.

**Conclusions:** Wide bore needle aspiration is easy and cheap, less invasive, effective method of management in emergency situations of peritonsillar abscess. Early wide bore needle aspiration and IV antibiotics will prevent complications and reduce the need for incision and drainage.

**Keywords:** Peritonsillar abscess, Wide bore needle aspiration, Incision and drainage

## INTRODUCTION

Peritonsillar abscess, also known as quinsy is a mixed bacterial infection leading to pus collection between capsule and superior constrictor muscle. It is usually preceded by peritonsillar cellulitis. Quinsy and peritonsillitis are common throat emergencies and is the most common head and neck abscess. Peritonsillar abscess commonly presents between 3<sup>rd</sup> to 4<sup>th</sup> decade of life and commonly occurs in winter and summer season commonly because of high incidence of streptococcal pharyngitis.<sup>1-5</sup> Peritonsillar abscess arises from Weber's glands.<sup>6,7</sup> Most common causative organism for peritonsillar abscess is mixed anaerobes and Group A *Streptococcus*.<sup>8-14</sup> The objective of this study was to compare the outcome of two important surgical

procedures for management of peritonsillar abscess incision and drainage and wide needle aspiration.

## METHODS

In this study retrospective review of clinical data of patients with peritonsillar abscess presenting over 4 years period from September 2014 – September 2018 to the department of ENT at Sri Manakula Vinayagar Medical College and Hospital, Puducherry was done. Clinical case sheets, culture sensitivity reports, operative notes were used to collect the patients details. 45 patients with a documented peritonsillar abscess having had wide bore needle aspiration at least once were included in the study. Exclusion criteria were retropharyngeal and parapharyngeal abscess.

Clinical details of 45 patients were obtained including demographic details, etiology of peritonsilar abscess, risk factors, antibiotics used, duration of antibiotic treatment, culture reports, details of surgical intervention noted.

## RESULTS

Among 45 cases included in this study, 18 patients were males and 27 patients were females.

**Table 1: Showing sex distribution of patients.**

Sex distribution of patients	No. of patients
Male	18
Female	27

Age of the patients ranged from 15 years to 70 years, majority belonging to 20 to 40 years.

Most common causative organisms were anaerobes, followed by Group A *Streptococcus*, *H. influenzae*, *S. aureus*.

**Table 2: Showing culture reports of the patients.**

Culture report	No. of patients (%)
Oral mixed anaerobes	18 (40)
Group A <i>Streptococcus</i>	14 (31.1)
<i>H. influenzae</i>	6 (13.33)
<i>S. aureus</i>	4 (8.89)
No growth	3 (6.66)
<b>Total</b>	<b>45 (100)</b>

Patients were treated with IV antibiotics amoxycillin and clavulanic acid 1.2 g IV bd for 5 days. All the patients underwent wide bore needle aspiration with 18 gauge needle for peritonsillar abscess. 40 patients improved with wide bore needle aspiration and IV antibiotics alone and 5 patients needed incision and drainage under local anaesthesia.

Pus was sent for culture and sensitivity in all 45 cases. Culture was positive in 42 cases. Among these, mixed anaerobes were most commonly cultured i.e. in 18 cases. Group A *Streptococcus*-14, *H. influenzae*-6, *S. aureus* was cultured in 4 patients.

**Table 3: Showing interventions done for the patients.**

Intervention	No. of patients (%)
Wide bore needle aspiration alone	40 (88.89)
Wide bore needle aspiration and incision and drainage	5 (11.11)
<b>Total</b>	<b>45 (100)</b>

## DISCUSSION

Peritonsillar abscess is the most common complication of acute tonsillitis. It can cause many complications like parapharyngeal abscess, retropharyngeal abscess. It can also cause airway obstruction and death. In our study we came across 45 cases of peritonsillar abscesses over a period of 4 years. In this group females were affected more commonly than males. Khan et al, their study shows male was predominantly affected, in our study females were commonly affected.<sup>15</sup> Among 45 cases included in this study, 18 patients were males and 27 patients were females. Age of the patients ranged from 15 years to 70 years, majority belonging to 20 to 40 years, most of the studies shows affected age group between 3<sup>rd</sup> and 4<sup>th</sup> decade of life.<sup>16,17</sup>

All the patients were admitted in ENT ward and underwent routine blood investigations. CT scan of neck was done in selected cases. In 45 patients 2 patients presented with bilateral peritonsillar abscess. After taking informed consent, under aseptic precautions all patients underwent wide bore needle aspiration using 18 gauge needle using 10% lignocaine spray. Pus sent for culture and sensitivity. Patients were started on broad spectrum IV antibiotics – inj. amoxicillin and clavulanic acid 1.2 g IV bd, inj. metronidazole 500 mg IV tid. 40 patients symptomatically improved within 1-2 days and swelling and swallowing improved well after 3 days. But 5 patients had persistent symptoms, and needed incision drainage using quinsy forceps. Incision and drainage was done under local anaesthesia, over an area just lateral to the junction of two imaginary perpendicular lines, one passing along the anterior pillar, another along the base of uvula.

In a clinic bacterial study of peritonsillar abscess by Verghese et al most common aerobic organism isolated was Group A beta hemolytic streptococcus (GABHS) seen on 10 (27.77%) cases.<sup>18</sup> Anaerobic culture could be done in 22 cases only. It was positive in 11 (50%) cases. Commonest isolate was *Peptostreptococcus* seen in 4 (18.18%) cases.

A study by Sakae et al, 87% samples showed positive cultures.<sup>19</sup> Aerobic or facultative aerobic bacteria were isolated from 23% aspirates, mixed aerobic and anaerobic bacteria from 60%, and anaerobic bacteria from only 3% aspirate. A total of 69 bacterial isolates (34 aerobic and 35 anaerobic) were recovered. The most common aerobic isolate was *Streptococcus* sp, with *Streptococcus pyogenes* being identified in 23% of aspirates. The predominant anaerobic isolates were *Prevotella* sp and *Peptostreptococcus* sp.

A study by Sowerby et al only 7% of patients had no growth.<sup>20</sup> *Streptococcus*, either alone or in combination with other bacteria, was cultured in 25 of 46 patients (56%), and in 25 of 29 (81%) cultures in which a specific

pathogen was identified. *Streptococcus pyogenes* and *Streptococcus anginosus* accounted for the vast majority of Streptococcus cultures, with *S. Anginosus* present in 12 cultures and *S. pyogenes* in 11 cultures out of 42 patients with a positive culture. The gram stain was indicative of possible anaerobes by the presence of multiple organisms, such as gram positive/negative rods and gram negative cocci that failed to grow in aerobic culture in 20 (44%) specimens.

In our study, out of 45 patients, 42 patients were culture positive. No growth for 3 patients. Among these, mixed anaerobes were most commonly cultured i.e. in 18 (40%) cases. Group A *Streptococcus*- 14 (31.1%), *H. influenzae*- 6 (13.33%), *Staphylococcus aureus* was cultured in 4 (8.89%) patients.

40 patients responded well to initial wide bore needle aspiration and iv antibiotics. It shows that wide bore needle aspiration is easy, cheap, less invasive, effective method of management in emergency situations of peritonsillar abscess. Early wide bore needle aspiration and iv antibiotics will prevent complications and reduce the need for incision and drainage.

## CONCLUSION

Wide bore needle aspiration is easy and cheap, less invasive, effective method of management in emergency situations of peritonsillar abscess. Early wide bore needle aspiration and iv antibiotics will prevent complications and reduce the need for incision and drainage.

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