

# Comparative Study of Management of Peritonsillar Abscess by Needle Aspiration Versus Incision and Drainage

QAISAR KHAN, AMIR HAMZA, GUL HALEEM, FAZAL-I-WAHID

## ABSTRACT

**Objective:** To compare the results of needle aspiration versus incision and drainage of peritonsillar abscess.

**Study design:** Comparative study.

**Patients & methodology:** This study was conducted at the department of ENT Head & Neck surgery, Postgraduate Medical Institute, Lady Reading Hospital Peshawar from 01.06.2007 to 31-05-2010. A total of 62 patients were selected who presented mostly in emergency with unilateral sore throat, fever, dysphagia and trismus. Thirty one of these patients were treated by incision and drainage using guarded quinsy knife and 31 patients by needle aspiration and all were put on parenteral antibiotics.

**Results:** Forty six patients were male and 16 female. The age ranged from 15years to 35years with mean age of 24.6 years. The majority of the patients had the complaint of unilateral sore throat which gradually progressed in 3 to 4 days to odynophagia, dysphagia, trismus, ipsilateral otalgia and headach associated with fever and lymphadenopathy. The hospital stay in patients with needle aspiration ranged from 1-6 days with an average of 3.26 days. Eight patients (25.8%) had to come back for incision and drainage which required further admission and increased the average hospital stay, thus the recovery period was from 6 to 16 days. In comparison the hospital stay with incision and drainage varied from 3 to 6 days and there was no recurrence.

**Conclusion:** Incision and drainage is preferable to needle aspiration in patients with peritonsillar abscess.

**Key words:** Peritonsillar abscess, quinsy, treatment, recurrence

---

## INTRODUCTION

Peritonsillar abscess is a collection of pus between the fibrous capsule of the tonsil and the superior constrictor muscle of the pharynx.<sup>1</sup> It occurs usually at the upper pole of tonsil because the loose areolar tissue is maximum here. Infection usually spread through the crypta magna and tonsillar capsule at the upper pole. Initially the area is red and swollen with features of cellulitis. If not properly treated at this stage, the pus forms and abscess then extends into the peritonsillar space and further into the soft palate and rarely may reach the para pharyngeal space. Quinsy usually affects a fit young adult who usually have a previous history of repeated attacks of acute tonsillitis, however, the patient may never have had a history of previous recurrent acute tonsillitis. Usually a quinsy is preceded by a sore throat for 2 to 3 days which gradually becomes more severe and unilateral. Quinsy is almost always unilateral but occasionally can be bilateral.<sup>2</sup> The main feature of the history is the progressive, usually unilateral, sore throat over three to four days, odynophagia, dysphagia for solids

and eventually liquids, drooling, trismus, ipsilateral otalgia and headach associated with fever and ipsilateral lymphadenopathy. The patient's voice develops a characteristic 'plummy' quality as a consequence of the oropharyngeal swelling and an accumulation of saliva in the mouth. Examination reveals an ill looking patient with fever and often with severe trismus. Oropharyngeal examination shows striking asymmetry with oedema and hyperaemia of the soft palate, and enlargement, hyperaemia and displacement of the tonsil on that side. There is also cervical lymphadenopathy in the jugulodigastric region on the same side.<sup>3</sup> Culture of pus from the abscess shows mixed aerobic and anaerobic organisms.

The treatment initially during cellulitis is with intravenous antibiotics, analgesics, intravenous fluids, and if the pus has formed, then drainage.<sup>4</sup> This study compares the efficacy of pus drainage by needle aspiration and that of incision and drainage using conventional guarded quinsy knife under local anesthesia.

## PATIENTS AND METHODS

The study period is of three years from 01-06.2007 to 31-05-2010. Sixty two patients of peritonsillar abscess were selected. Patients aged 15-35 years.

---

Department of ENT, Postgraduate Medical Institute/Lady Reading Hospital, Peshawar  
Correspondence to Dr. Qaisar Khan, ENT Department, PGMI/LRH Peshawar. drqaisarkhan@yahoo.com

Patients having any other associated illness were excluded. The patients were randomly divided into 2 groups of 31 patients each. In group A abscess was drained by wide bore needle. In the group B patient's abscess was drained by conventional incision and drainage with quinsy knife. The recurrence rate was noted to ascertain the efficacy of two techniques.

## RESULTS

There was male preponderance as 46 (74.25%) were male and 16 (25.75%) female. The age ranged from 15 years to 35 years with mean age of 24.6 years. All the patients were otherwise healthy and young with no immune compromising disease. The disease was unilateral in all. Forty five patients had a history of previous repeated attacks of sore throat. All the patients had first attack of quinsy. The majority of the patients had complaint of initial sore throat which gradually progressed in a few days to odynophagia, dysphagia and trismus to the extent that drooling occurred. There was associated fever of 101° to 102°F and otalgia.

On examination oropharyngeal asymmetry was seen. The upper pole of the tonsil was red congested and oedematous with similar involvement of the soft palate. The tonsil was displaced medially and forward and the uvula pushed to the opposite side. The jugulodigastric lymph node was palpable and tender in 50% of patients. The referred otalgia was present in 75% patients. The rest of the ENT and general examination was unremarkable. All patients were admitted and those who had not developed full abscess were put on injection benzyl penicillin and Inj Metronidazole as well as analgesics and I.V fluids. Those who failed to recover and developed abscess were then drained.

The hospital stay in patients with needle aspiration ranged from 1 to 6 days with an average of 3.26 days under antibiotic cover. In this group nine patients (29%) stayed for 1-2 days, 15 patients (48.4%) for 3-4 days and 7 patients (22.6%) stayed for 5-6 days. Eight patients (25.8%) of this group had to come back for incision and drainage, which required further admission and increased the average hospital stay, thus the recovery period was from 6 to 16 days. In comparison the hospital stay with incision and drainage varied from 3 to 6 days, with 21 patients (67.7%) stayed for 3-4 days 10 patients (32.3%) for 5-6 days. The period of recovery with incision and drainage was 3-10 days.

## DISCUSSION

A peritonsillar abscess should ideally be drained early to promote faster resolution of symptoms, prevent complications and reduce length of in

hospital stay. The condition is potentially lethal and can lead to pharyngeal oedema and air way obstruction. The infection can further extend to the parapharyngeal space leading to serious complications, such as jugular vein thrombosis and fatal carotid artery haemorrhage. Trismus is caused by reflex spasm of the masticator muscle group and can be a major obstacle to early drainage of the abscess.<sup>3</sup> This disease affects usually otherwise young healthy adults between 20 to 24 years of age who have history of tonsillitis in majority of cases. In almost all cases the disease is unilateral<sup>5</sup>. All these patients were inducted after they fulfilled the inclusion criteria. All of them had history of tonsillitis, however it can occur in patients who never have had tonsillitis. There is no seasonal variation and it is more common in males. In our study none of the patients had previous history of quinsy but in literature liability to recurrence of quinsy is closer to 20%<sup>6</sup>. The pus was sent for culture and sensitivity and the most common organism was Gram-positive beta hemolytic streptococcus as seen in other studies.<sup>7-8</sup> The most common anaerobic organism reported in literature is fusobacter. The commonest antibiotics used in our study were benzyl penicillin and metronidazole which deal effectively with the relevant organisms.<sup>9</sup> the patients abscess was drained with lignocain spray. Stinger et al<sup>10</sup> and Jousimies<sup>11</sup> did a similar study and showed that both the procedures used had same results in terms of hospital stay, recovery period and recurrence with no appreciable difference. Wolf et al also suggested equal results with both the techniques but our study showed that the incision and drainage had a shorter hospital stay, early recovery and no recurrence rate. Needle aspiration can still be used for confirming the diagnosis, aspiration of abscess and culture and sensitivity to select an appropriate antibiotic. The needle aspiration is not only associated with the risk of recurrence but also grave complications as spread of the abscess to the Parapharyngeal space with potential risk for mediastinitis<sup>12-14</sup>.

Keeping in view the above data it is recommended that, an incision and drainage be done under local anesthesia with appropriate antibiotics followed by tonsillectomy 6 weeks later to prevent recurrence<sup>13</sup>.

## CONCLUSION

Our study suggests that conventional incision and drainage under cover of antibiotics followed by tonsillectomy at later date remains the best management for peritonsillar abscess as compared to needle aspiration which has poor recovery rate with high recurrence.

## REFERENCES

1. American Academy of Family Physicians. Information from your family doctor: peritonsillar abscess: what you should know. *Am Fam Physician* 2008;77:209.
2. Loh J, Saad SM, Hussain S. Bilateral peritonsillar abscess; a rare variant. *Rawal Med J* 2009;34:236-7.
3. Cowan DL, Hibbert J. Acute and chronic infection of the pharynx and tonsils. In: Hibbert J, ed. *Scott-Brown's otolaryngology*. 6<sup>th</sup> ed. Oxford: Butterworth-Heinemann, 1997;4-11.
4. Khayr W, Taepke J. Management of peritonsillar abscess: needle aspiration versus incision and drainage versus tonsillectomy. *Am J Ther* 2005;12: 344-50.
5. Iqbal SM, Hussain A, Mughal S, Khan IZ, Khan IA. Peritonsillar cellulites and quinsy, clinical presentation and management. *Pak Armed Forces Med J* 2009; 59: 275-80.
6. Evanchen WM. Peritonsillar abscess repeated needle aspiration versus incision and drainage. *Ann Otol Laryngol* 1994; 103: 554-7.
7. Snow DG, Campbell JB. The microbiology of peritonsillar sepsis. *J Laryngol Otol* 1991;105: 553-5.
8. Litmon RS, Hawsman SA. A retrospective study of peritonsillar abscess. *Ear Nose Throat J* 1987; 66: 53-5.
9. Kieff DA, Bhattacharyya N, Siegel NS, Salman SD. Selection of antibiotics after incision and drainage of peritonsillar abscesses. *Otolaryngol Head Neck Surg*. 1999;120: 57-61S
10. Stninger SP, Schaefer SD. A randomized trial for outpatient management. Peritonsillar abscess. *Arch Otolaryngol Head Neck Surg* 1988; 114: 296-8.
11. Jousimies-Somar H, Savolainen S. Bacteriological findings in peritonsillar abscess in young adults. *Clin Infect Dis* 1993; 16: 5292-8
12. Rafi T, Farooq U, Sheikh HUR. Comparative study of management of peritonsillar abscess by needle aspiration versus incision and drainage. *J Surg Pak* 2007; 12: 126-8.
13. Raut VV, Yung MW. Peritonsillar abscess: the rationale for interval tonsillectomy. *Ear Nose Throat J* 2000; 79: 206-9.
14. Nielsen TR, Clenxent F. Mediastinitis a rare complication of peritonsillar abscess. *J Laryngol Otol* 1996;110: 175-6.