ORIGINAL ARTICLE

Comparison of Needle Aspiration With Incision & Drainage in the Management of Patients Presenting with Peritonsillar Abscess

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ABSTRACT

Objective: To compare the efficacy of needle aspiration with incision & drainage in the management of Peritonsillar abscess.

Place and Duration of the Study: This study was carried out at Ear, Nose, Throat and Head & Neck Surgery Department of Tertiary Care Teaching Hospital at Rawalpindi from August 2007 to July 2009.

Materials and Methods: Total of 60 patients with diagnosed Peritonsillar abscesses were included in the study. They were divided into two groups A & B, each consisting of 30 patients. Needle aspiration was done in group 'A' whereas patinets in group B were treated with incision & drainage. All the patients received the same parenteral antibiotics and analgesics. Patients were observed for reoccurrence of disease, fever, pain, oral intake, duration of stay in hospital.

Results: The mean age of patients in both groups was 20.7 (SD±7.3) years. Four (13%) patients developed reoccurrence in group A after needle aspiration and were subjected to incision & drainage. Two of them again developed reoccurrence and required interval tonsillectomy. In group B, 3 (10%) patients developed reoccurrence after incision and drainage and all of them needed interval tonsillectomy. Twenty six (86.6%) patients in group A were afebrile at 24 hrs after treatment whereas in group B, 29 (96.9%) patients had no fever. Twenty five (83.3%) patients in group A were pain free at 24 hours while in group B, the number of pain free patients were only 16 (53.3%). Seventeen patients (56.6%) in group A began to take solid diet at 24 hours while none had taken solid diet in group B after that interval. The duration of hospital stay in group A was 27.6 hours (SD±15.1) while it was 76.9 hours (SD±116.3) in group B.

Conclusion: Needle aspiration is as effective as Incision & drainage in the management of peritonsillar abscess.

Key Words: *Peritonsillar abscess, Drainage, Tonsillitis*

Introduction

Peritonsillar infection describes a spectrum of disease that range from Peritonsillar cellulitis to Peritonsillar abscess. Peritonsilar abscess or quinsy refers to the collection of pus located between the fibrous capsule of the pharyngeal tonsil and the superior constrictor muscles of the pharynx.[1] The Peritonsillar abscess is very common deep infection of the head & neck and usually occurs in adults.It is typically caused by a combination of aerobic and anaerobic bacteria.[2] The common aerobic organisms are streptococcus pyogenes, staphylococcus aureus, Haemophilus influenza and Neisseria species while common anaerobic organisms are Fusobacterium, Peptostreptococcus, Prevotella and Bacteroides.[3] The main symptoms and signs were: fever, odynophagia, cervical lymphadenitis and asymmetric tonsillar hypertrophy.[4] Some of the patients have also the complaint of dysphagia and trismus.[5] If abscess progresses, it can involve the surrounding anatomy, including the masseter muscles and the pterygoid muscles. If severe, the infection can also penetrate the carotid sheath.[2] Different treatment modalities are suggested for the management of peritonsillar absess but controversity still exsist regarding best treatment option.[6] The choice of best treatment option depends upon many factors eg patient discomfort, time taken by disease to recover, financial issues and possibility of recurrence.[7] Adequate drainage with accompanying antimicrobial therapy and hydration are the corner stone's of management. Other

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treatment options include aspiration, incision & drainage and quinsy tonsillectomy. The choice of treatment is largely dependent on the preference of the individual practitioner.[8] The purpose of this study is to compare needle aspiration with incision and drainage in the management of peritonsillar abscess.

Materials and Methods

It is a Quasi experimental study design. It is carried out in the Department of Ear, Nose, Throat and Head & Neck Surgery at Tertiary Care Teaching Hospital in Rawalpindi. 60 Patients included in this study. Patients were divided in to two groups, Group 'A' and Group 'B'. Group A were for Aspiration and Group B for Incision and Drainage. We used Convenience Sampling Technique. Patients coming in the outpatient department in the age group of 15 to 35 years with diagnosed peritonsillar abscesses were included in the study. Patients with recurrent peritonsillar abscess, diabetes, hypertension and bleeding diathesis were not included in the study.

As number of patients with peritonsillar abscess were short so we have requested the other allied hospitals to refer the patients of peritonsillar abscess in our hospital. The patients were admitted in the ward. Informed consent explaining advantages and disadvantages of two procedures was taken from the patients and approval of the study from hospital ethical committee taken.

All necessary investigations like blood complete picture, blood sugar random (normal up to 200 mg/dl), clotting time (4-11 minutes), bleeding time (2-11 minutes) done. Blood pressure charting maintained to detect any undiagnosed hypertension (up to 120/80 mm Hg).Every patient advised gargling with Xylocain 4% solution for anaesthetizing the throat. For aspiration 10cc 22G*$1^{1/4}$" syringe used. Aspiration done at the level of upper and middle poles of tonsil under vision.For incision and drainage peritonsillar abscess opened at the point of maximum bulge above upper pole of tonsil or just lateral to the point at the junction of anterior pillar with a line drawn though the base of Uvula. With the help of guarded knife a small stab incision was made and then sinus forceps inserted to open the abscess & whole pus drained. All the patients were given the same antibiotic (Inj Augmentin 1.2 gm, Intravenously twice daily) and same analgesics (Inj dicloran 75 mg intramuscular twice daily).Patients were observed for pain, fever, oral intake (at presentation, at 12 hours & at 24 hours) and duration of stay in hospital after procedure. Pain measured on visual analogue scale. Patients discharged on same antibiotics and analgesics. Data collected on proforma.Data was analyzed using SPSS version 10. Mean and standard deviation were calculated for age and duration of stay in hospital. Frequency and percentages calculated for gender, pain, fever and oral intake. T Test used to compare the age groups and duration of stay in hospital. Chi square test used to compare the pain, fever and oral intake.P value less than 0.05 taken as significant.

Results

Demographics of group A and B are shown in Table I.

In group A, 4 (13%) out of 30 patients developed recurrence of peritonsillar abscess. In two of them incision and drainage was done and in other two we did interval tonsillectomy. While in group B three (10 %) out of 30 patients presented with recurrence in which interval tonsillectomy done. The symptoms of both groups at presentation, at 12 hours and at 24 hours of treatment are shown in Table II.

The Chi Square test was applied for pain at presentation, at 12 hours and at 24 hours for both groups. While fever and oral intake were compared at 12 hours and 24 hours. P

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value was calculated for pain at three steps and found to be<0.001. P value for fever and oral intake when counted was<0.01. The mean for duration of stay in hospital in group A was 27.6 hours (SD ±15.1). While mean duration of stay in group B was 76.9 hours (SD ±116.3). P value for duration of stay in hospital in both groups when compared was 0.030 which is <0.05.

Table I: Demographics of Group A & B

Groups	Male	Female	Mean Age
Group A	13 (43%)	17 (57%)	20.7
Group B	12 (40%)	18 (60%)	20.7

Table II: Symptoms at presentation, at 12 hours and 24 hours after treatment

Symptom	Group	At Presentation		At 12 Hours			At 24 Hours			
Pain		Moderate Pain	Severe Pain	No Pain	Mild Pain	Moderate Pain	No Pain	Mild Pain	Moderate Pain	
	A	9 (30%)	21 (70%)	5 (16.6%)	16 (53.3%)	9 (30%)	25 (83.3%)	4 (13.3%)	1 (3.3%)	
	B	11 (37%)	19 (63.3%)	0 %	12 (40%)	18 (60%)	16 (53.3%)	14 (46.6%)	0 %	
Fever				Yes		No	Yes		No	
	A			11 (37%)		19 (63.3%)	4 (13.3%)		26 (86.6%)	
	B			16 (53.3%)		14 (46.6%)	1 (3.3%)		29 (96.6%)	
Oral Intake				None	Liquid	Semi Solid	Solid Diet	None	Liquid	Semi Solid	Solid Diet
	A			3(10%)	12 (40%)	7 (23%)	8 (26%)	1 (3%)	4 (13%)	8(26%)	17 (56.6%)
	B			11 (37%)	19 (63%)	0%	0%	3 (10%)	6 (20%)	21 (70%)	0 %

Discussion

Peritonsillar Abscess is the most common deep infection of head and neck in adults. Treatment modalities vary from center to center and person to person. Three main surgical procedures used to treat peritonsillar Abscess are needle aspiration, Incision & Drainage and interval Tonsillectomy. In our country, the most commonly employed treatment modalities are needle aspiration and Incision & Drainage whereas Interval tonsillectomy has been reserved for recurrent cases. Controversy still exists regarding the best treatment modality of peritonsillar abscess. Some studies claim that there is no significant difference between the results of Needle Aspiration and Incision & Drainage as there is no recurrence of disease with both modalities[9,10] while others do not agree with this opinion.[11,16,13] The percentage of reoccurrence of disease after needle aspiration was observed to be 10%, 17.3% and 23% in various studies.[11,15,13] The recurrence rate noted in our study was 13 % in patients treated with Needle Aspiration whereas 10 % recurrence was seen after incision and drainage of peritonsillar abscess. These results suggests that needle aspiration is a superior modality of treatment compared with incision and drainage in the management of peritonsillar abscess.Regarding symptoms relief, opinion again differ about the superiority of one treatment modality over the other. Our study suggests that needle aspiration resulted in earlier relief of symptoms compared with incision and drainage. We have seen 56.6 % of the patients treated with needle aspiration started taking solid diet at 24 hours and none of the patients of Incision & Drainage started solid diet at 24 hours. This observation is shared in another study where solid diet intake by patients of Needle Aspiration was started at 3.2 days and those treated with Incision & Drainage took 3.8 days to start solid diet.[14] This study also showed that fever was relieved earlier in the patients of Incision & Drainage then in the patients of Needle Aspiration and our study also support this view. Few studies do not share this observation and claim that there is no significant difference between the two above mentioned treatment modalities.[9,10] In our study we noted remarkable difference in duration of hospital stay in two groups. The mean duration of hospital stay in the patients of Needle Aspiration was 27.6 hours whereas those treated with incision and drainage stayed much longer with mean duration of 76.9 hours. One study showed no significant difference in duration of hospital stay (5.5 days in patients treated with Needle Aspiration and 5.4 days in patients treated with Incision &

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Drainage)[15]So whole of this discussion ends in saying that Needle Aspiration is a selected strategy for the management of peritonsillar abscess as our study has proved.These results suggest that Needle Aspiration of peritonsillar abscess results in early relief of signs and symptoms and shorter duration of stay in hospital. It is associated with less recurrence rate as compared to incision and drainage. In our set up where most of our patients belong to low socioenonomic group, cannot afford to remain away from their work and longer duration of hospital stay put extra burden on our limited health resources, needle aspiration is superior treatment modality in the management of peritonsillar abscess as suggested by the results of our study.

Conclusion

Needle Aspiration is equally effective as Incision and Drainage in the management of Peritonsillar abscess as suggested by early relief of symptoms and signs, shorter duration of stay in hospital.

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