ORIGINAL ARTICLE

PERITONSILLAR ABSCESS: COMPARISON OF OUTCOME OF INCISION AND DRAINAGE VERSUS NEEDLE ASPIRATION

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ABSTRACT

Background: Peritonsillar abscess is one of the commonest and serious emergencies in the head and neck region, requiring urgent surgical intervention. This study was designed to compare the outcome of incision & drainage versus needle aspiration for peritonsillar abscess in terms of hospital stay, postoperative pain and recurrence.

Material & Methods: This comparative study was conducted at Departments of ENT, Mufti Mehmood Memorial Teaching Hospital and DHQ Teaching Hospital, D.I. Khan from January 2010 to December 2012. Adult subject of both sexes (age >15 years) with Peritonsillar abscess were included. Subjects aged <15 years, and those with acute follicular tonsillitis and bleeding disorders were excluded. Subjects were divided into group 1 and 2 of 28 each on alternate basis.

Results: The study included 40 male and 16 females. Mean age of the subjects was 29.07±9.05 years (range 16-50 years) in group 1 and 32.32±8.83 years (range 18-50 years) in group 2 with insignificant statistical difference (p= 0.179). Mean hospital stay was 2.29 (1.05) days (range 1-5 days) in group 1 and 3.43 (1.43) days (range 1-5 days) in group 2 with a significant statistical difference (p= 0.0013). The rate of severe pain was statistically significantly higher in group 1 (p=0.007). The rate of recurrence was statistically significantly higher in group 2 (p=0.000).

Conclusion: Incision and drainage for peritonsillar abscess is a superior procedure over needle aspiration in terms of hospital stay and recurrence of abscess while later is superior in terms of frequency of severe post-operative pain.

Key Words: Peritonsillar abscess, Incision and drainage, Needle aspiration.

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INTRODUCTION

Peritonsillar abscess (quinsy) is a common complication of acute bacterial tonsillitis. The incidence of peritonsillar abscess (PTA) has been estimated as 30 cases per 100,000 persons per year, accounting for approximately 45,000 cases annually in USA. The condition is usually unilateral and can affect any age group from 10 to 60 years but is most common in the age group 20 to 40 years.[1,2] Intensive therapy may be required in some cases because it may lead to fatal complications, such as deep neck abscess and descending necrotizing mediastinitis.[3] Usual causative bacteria are gram-positive cocci (mainly Streptococcus β-hemolyticus group A), anaerobes and gram-negative rods.[4]

The treatment strategies include; incision & drainage, needle aspiration, and abscess tonsillectomy.[5]

The purpose of this study was to compare the outcome of incision & drainage versus needle aspiration for PTA in terms of hospital stay, post-operative pain and recurrence.

MATERIAL AND METHODS

This prospective and comparative hospital based study was conducted in the Departments of ENT, DHQ Teaching Hospital, and Mufti Mehmood Memorial Teaching Hospital, D.I.Khan from January 2010 to December 2011. The study was started after approval of the study proposal from the ethical committee. Adult subjects (>15 years of age) of both sexes with PTA were included. Subjects with

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acute follicular tonsillitis, and those with bleeding disorders were excluded. All patients were admitted in ENT ward. A signed informed consent containing terms of inclusion in study, details of the procedures, benefits and risks involved, was obtained from each patient. Detailed otorhinolaryngological history and examination was carried out. Patients having swollen ipsilateral upper pole of the tonsil, trismus, swollen and deviated uvula towards the opposite side and a positive needle aspiration of the pus from the swelling were confirmed as PTA. Total and differential leukocytic counts, clotting time, bleeding time, HBsAg and Anti-HCV were carried out for all patients.

All subjects fulfilling the inclusion/ exclusion criteria were assigned to either procedure on alternate basis, odds to I & D (group 1) and evens to NA procedure (group 2). All surgeries were performed on the same day after admission.

In all the patients lidocaine 10% spray was used as local anaesthetic. A small curvilinear incision was made in the mucosa with a guarded quinsy knife to prevent a deep incision, over the most fluctuant part of the swelling. A blunt curved artery forceps was placed into the wound and spread until adequate drainage was achieved. It was performed with a wide bore 18-gauge needle on a 10-ml syringe at the site of maximum swelling. Any pus found was aspirated. All the patients received the same preoperative and postoperative therapy i.e. 8 hourly intravenous coamoxiclave (amoxicillin/ clavunate) 1.2 grams and metronidazole (200 grams) in100 ml for the first 2-days and thereby orally 1 grams 12-hourly and 400 mg 8-hourly, respectively for the next 5-days. Parenteral /oral diclofenac sodium and antipyretics, pyodine mouth wash, and where required, intravenous ringer lactate were added. In cases of recurrence of PTA after needle aspiration, patients were subsequently treated by incision and drainage. The two procedures performed for PTA were compared in terms of hospital stay, post operative pain, and recurrence of abscess.

Following discharge after 2-5 days; patients were examined at one-month interval for three months for evidence of recurrence. Interval tonsillectomy was carried out in all the recurrent cases of PTA after 6 weeks and also in those patients who had history of recurrent tonsillitis in the past few years (3-5 attacks/year for last 2-3 years). A proforma was used for each patient having following variables noted and then entered into the data sheet of SPSS 17 (SPSS. Inc., Chicago, Illinois, USA) with Windows 7 Professional (Microsoft Corporation, USA): age, gender, hospital stay in days, degree of post operative pain, and evidence of recurrence of PTA. Age and gender were demographic and in-

Table 1: Gender distribution of study patients.

Procedure	Male Number (%)	Female Number (%)	Total
Group 1	22 (78.6)	6 (21.4)	28
Group 2	18 (64.3)	10 (35.7)	28
Total	40 (71.4)	16 (28.6)	56

Table 2: Age distribution and hospital stay in days.

Variable	Group	N	Mean	Std. Deviation	p-value
Age	**Group 1**	28	29.07	9.05	0.1796
	Group 2	28	33.32	8.83	
Hospital stay	**Group 1**	28	2.29	1.05	0.0013
	Group 2	28	3.43	1.43	

Table 3: Frequency of postoperative pain.

Degree of pain	Group-1 n (%)	Group-2 n (%)	Total		Chi-Square test	
				Chi-Square value	Degree of freedom	p-value (2-sided)
Mild	5 (26)	14 (74)	19	9.810	2	0.007
Moderate	6 (43)	8 (57)	14			
Severe	17 (74)	6 (24)	23			
Total	28	28	56			

dependent variables. The rest were study and dependent variables.

Pain was graded as mild, moderate and severe as described by the patients. Nominal and ordinal data were expressed as frequency and percentage.

Numerical data was expressed as mean, standard deviation, range and standard error of mean. To determine the differences between the groups for age and hospital stay the Independent Sample Student *t* test was used. Chi-square test was used as test of significance for nominal and ordinal data. P value of <0.05 was considered as statistically significant.

RESULTS

Out of 56 patients, 40 (71.4%) were males and 16 (28.6%) females. (Table 1)

Mean age of the subjects was 29.07 ± 9.05 years (range16-50 years) in group 1 and 32.32 ± 8.83 years (range 18-50 years) in group 2. The difference in mean age between the groups was not statistically significant ($p=0.179$). Therefore age was not a confounding factor.

Mean hospital stay was 2.29 (1.05) days (range 1-5days) in group 1 and 3.43 (1.43) days (range 1-5 days) in group 2. The difference in mean hospital stay between the groups was statistically significant ($p = 0.0013$). (Table-2)

Recurrence of abscess was noted in only 2 (7.14%) patients after incision and drainage i.e. in group 1. But the figure was quite high 18 (64.28%) after needle aspiration i.e. in group 2. The difference is statistically significant ($p= 0.00$).

The analysis for the degree of postoperative pain is shown in table 4. The rate of severe pain is statistically significantly higher in group 1 (I&D).

The age was then stratified into four ranked categories (ordinal data). (Table 4)

Table 4: Frequency of age in years in ranked categories.

Age in years	Frequency	Relative frequency (%)
15 to 20	3	5.38
21 to 40	43	76.74
41 to 60	7	12.5
>6o	3	5.38
Total	56	100

DISCUSSION

Peritonsillar abscesses are common infections of head and neck region and comprise 30% of soft tissue head and neck abscesses.[5] Peritonsillar abscess usually progresses from tonsillitis to cellulitis and ultimately abscess formation.[6] Morbidity of PTA is due mostly to pain, cost of treatment, lost time from work and school, and complications.[7] The most commonly affected age group in our study was between 20-40 years (76%). Similarly another study has also reported the same results like ours.[8] Contrary to our results, another retrospective study has reported an estimated rate of 25% of patients aged years 40 or older.[9] Our study is consistent with other studies in showing male preponderance.[10,11] All cases were unilateral as well as predominant left side involvement which is noted similarly in other local studies as well.[10,12]

The mean hospital stay of the patients in group 2 (NA) was more than those of group 1 (I & D) because of the failure of initial attempt on needle aspiration which were finally dealt with incision and drainage. Hence they had a prolonged stay. Similar results have been reported in other studies.[11-13] But there was no significant difference in the average duration of hospitalization between the two groups in another study.[14]

In our study 64.28% patients experienced failure in needle aspiration group on initial attempt leading to re accumulation of the pus. Almost similar results are reported in a study from Karachi in which 80% of the patients needed subsequent incision and drainage after first treated by needle aspiration.[11] Contrary to our results 86% of the patients were successfully treated with a single aspiration in a study from India.[14]

Regarding post-operative bleeding, only one patient in group 1 suffered reactionary haemorrhage with no such incident in group 2. Matching our results, Habib et al reported a single case of post-operative bleeding after incision and drainage.[10] But literature has not reported post-operative bleeding after any drainage method for PTA.[14,15]

We reported severe post-operative pain after incision and drainage in 74% patients as compared to 26% after needle aspiration. Similar results are reported in another local study.[10]

Controversy remains over the necessity of incision and drainage versus needle aspiration for PTA. However, most otolaryngologists consider incision and drainage to be the gold standard procedure.[16]

CONCLUSION

Incision and drainage for peritonsillar abscess is a superior procedure over needle aspiration in

terms of hospital stay and recurrence while the later is superior in terms of frequency of severe post-operative pain.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
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None declared.