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INTRODUCTION

Tonsillectomy is defined as the surgical excision of the palatine tonsils and is a procedure routinely done in the ENT specialty. Tonsillectomy is one of the most frequently undertaken procedures in otolaryngology¹. In Pakistan 22% of patients reporting to ENT department are those having chronic tonsillitis². Tissue injury induced acute inflammation, nerve irritation and spasm of exposed pharyngeal muscle is known to play a role in genesis of post-tonsillectomy pain. It often leads to dehydration because of inadequate intake which results in prolonged hospitalization and added morbidity, so there is a need to achieve adequate pain control³. Taking into consideration that tonsillectomy is a very common surgical procedure, it is obvious that otolaryngologists are quite interested in drugs, decreasing the post operative troubles of the patient. In the

INTERVAL TONSILLECTOMIES; COMPARISON OF PER AND POST OPERATIVE COMPLICATIONS IN PATIENTS UNDERGOING EARLY AND DELAYED AFTER PERITONSILLAR ABSCESS

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ABSTRACT... Introduction: Peritonsillar abscess is a common clinical problem faced by otorhinolaryngologist all over the world. There are different schools of thoughts regarding tonsillectomy after peritonsillar abscess due to its expected complications. This comparative study was conducted to know about frequency of complications in each of the techniques. **Objective:** To compare per and post operative complications in patients undergoing early and delayed interval tonsillectomy after peritonsillar abscess. **Design:** This was randomized control trial. **Setting:** Department of ENT, Head and Neck surgery, PGMI/HMC, Peshawar. **Period:** From Jan 2012 to Dec 2013. **Material and Methods:** After taking detailed history, thorough examination, relevant investigations and informed written consent peritonsillar abscess was drained and then interval tonsillectomy was performed. The complications were noted on predesigned proforma. Chi square test was used to compare the complications in both the groups while keeping $P < 0.05$ as significant. **Results:** Out of 60 patients males were 38 and females were 22 with male to female ratio of 1.31:1. Average age was 24.7 years + 7.63 SD with a range of 13-45 year in Group-A, while Group B has average age of 23.97 year + 7.07 SD with a range of 13-46 years. Findings of per-operative and post operative hemorrhage showed that there was insignificant difference in both the groups ($P=0.601$). However pain and hospital stay in both the groups was significantly different with P value of 0.004 and 0.000 respectively. **Conclusions:** Early interval tonsillectomy is an easy and safe procedure for peritonsillar abscess.

Key words: Interval tonsillectomy, Peritonsillar abscess, Pain, Hemorrhages.

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past 20 years more concentrated efforts have been made to alleviate post-tonsillectomy pain⁴. Despite the surgeon's most sophisticated efforts to prevent it, hemorrhage remains the most significant complication after tonsillectomy. The paucity of literature suggests that life-threatening hemorrhage after tonsillectomy almost never occurs⁵. Hemorrhage remains the most significant risk. Several surgical methods are used to treat peritonsillar abscess, but no protocol for outpatient treatment has yet been published⁶. Efficacy, cost-effectiveness, patient discomfort, recovery time and possibility of recurrence are the issues considered to determine the best treatment option⁷. Results of a local study showed that the success rate in patients with needle-aspiration was 20% and success rate in patients with incision and drainage was 100%. One of the studies compared the quinsy

tonsillectomy versus interval tonsillectomy and showed that hospital stay and time lost from work was not significantly different². However, when they added on the second hospitalization for interval tonsillectomy, both found that there was difference in hospital stay as well as lost time from work³. Post tonsillectomy hemorrhage in patients who underwent abscess tonsillectomy within 24 hours especially on the side contra lateral to the abscess was also not different⁹.

As sufficient number of patients with peritonsillar abscess are presenting to our unit, requires tonsillectomy. This study was aimed to compare the complications of early and delayed interval tonsillectomy for patients with peritonsillar abscess.

MATERIAL AND METHODS

This randomized control trial study was conducted after approval from hospitals ethical and research committee, over 60 patients, which were divided in two groups randomly through lottery method. Complete blood count with differential, PT, APTT, ESR, urine routine examination, serum creatinine, blood urea and liver function tests were performed for each patient. After taking informed written consent a 19 gauge needle with a 10cc syringe was used to aspirate from the point of maximal bulging. Apply local anesthetic spray (4% xylocaine solution) to minimize discomfort and to facilitate the success of the procedure. The point for incision drainage was marked visually through imaginary horizontal line, from base of uvula, a second imaginary line drawn along the anterior faucial pillar, the point at which both lines meet is the point for incision drainage. Alternatively if a point is clearly bulging incision drainage may be carried out over it. One of the two procedure (Early interval tonsillectomy within a week and delayed interval tonsillectomy after 6 weeks) was performed and the complication like per and post operative hemorrhage, post operative pain, recovery period and total hospital stay were noted on predesigned proforma. Patients having glandular fever, diabetes mellitus, immunocompromized, bleeding diathesis and chronic systemic disease like TB, renal or liver

disease were excluded from the study. All the tests and procedures were performed through single laboratory and otorhinolaryngologist respectively and strictly exclusion criteria were followed so that to avoid any confounders and will make the study results unbiased. Frequency and percentages were calculated for all qualitative variables like gender and complications. For quantitative variables like age mean + and standard deviation was calculated. The results were presented through tables, cross tabulation, graphs and charts. Chi square test was used to compare the complications in both the groups while keeping P value of < 0.05 as significant. Data interpretation, calculations, tabulations and various other analytical procedures were done by computer program SPSS for windows version 17.

RESULTS

A total of 60 patients of peritonsillar abscess were treated, which were divided in two equal groups. Patients in Group-A were managed by early while patients in Group-B were subjected to delayed interval tonsillectomy. Gender wise distribution showed that 21 (70%) were male and 9 (30%) were female in Group A with male to female ratio was 2.33:1, while Group B consisted of 17(56%) male and 13(43%) female with male to female ratio of 3:1. Overall male to female ratio was 1.31:1(Fig- 1).

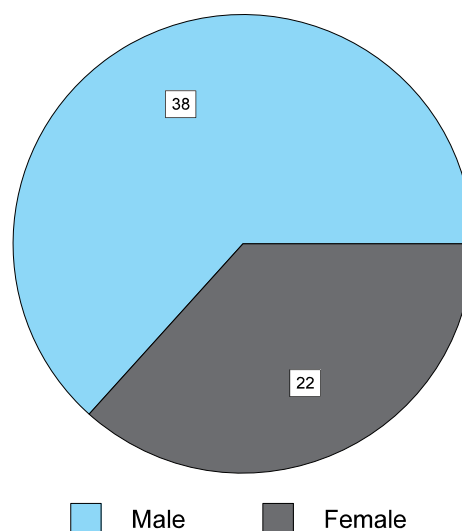


Fig-1. Gender wise distribution of patients

Sex distribution among the groups was insignificant with p -value=0.211. Average age was 24.7 years + 7.63 SD with a range of 13-45 year in Group-A and contains 12 (40%) patients having 10-20 years, 13(43.3%) patients 21-30 year, 3 (10%) patients 31-40 years and 2(6.7%) patients 41-50 years of age. While Group B have average age of 23.97 year + 7.07 SD with a range of 13-46 years and contains 11 (36.7%) patients in 10-20 years, 17(56.7%) in 21-30 year, 1(3.3%) in 31-40 years and 1(3.3%) patients had 41-50 years of age. The age distribution among the group was also insignificant with p -value 0.601. Findings of per-operative and post operative hemorrhage

showed that there was insignificant difference in both the groups ($P=0.601$) (Table-I). However in 16.7% patients severe pain was observed in Group B as compared to 6.7% in Group A which was significant with p -value=0.004. (Table- II). Postoperative hospital stay of less than one week was found in 23(76.7%) patients while hospital stay of one or more than one week was found in 7 (23.3%) patients in group A, while hospital stay of less than one week was found in 4 (13.3%) patients while hospital stay of one or more than one week was found in 26(86.7%) patients in group B. Which was significant with p -value=0.000. (Table-II).

	Procedure		Total	P-Value
	Group A	Group B		
Hemorrhage	No bleeding	29 (96.7%)	28 (93.3%)	0.601
	Primary	1 (3.3%)	1 (3.3%)	
	Secondary	-	1 (3.3%)	
Total	30 (100%)	30 (100%)	60 (100%)	

Table-I. Comparison of hemorrhage in both groups

	Procedure		Total	P-Value
	Group A	Group B		
Pain	Mild	20 (66.7%)	8 (26.7%)	0.004
	Moderate	8 (26.7%)	17 (56.7%)	
	Severe	2 (6.7%)	5 (16.7%)	
Total	30 (100%)	30 (100%)	60 (100%)	

Table-II. Comparison of pain in both groups

	Procedure		Total	P-Value
	Group A	Group B		
Pain	< 1 week	23 (76.7%)	4 (13.3%)	0.000
	≥ 1 week	7 (23.3%)	26 (86.7%)	
Total	30 (100%)	30 (100%)	60 (100%)	

Table-III. Comparison of hospital stay in both groups

DISCUSSION

Complication like infection and general risk of anesthesia are attached to all the surgical procedures. In tonsillectomy bleeding is most commonly encountered in a delayed fashion five to ten days after surgery. When an eschar comes off the history of two or more episodes of acute tonsillitis during the year preceding the abscess is a significant predictor of a higher rate of recurrent

peritonsillar abscess¹⁰.

Quinsy tonsillectomy has been reported to be more cost-effective than the delayed interval tonsillectomy because it prevents recurrence and the overall hospital stay is shortened¹¹. Most authors who compared the risks of postoperative hemorrhage did not take into consideration, the criteria such as the age and gender of the patients.

In a study it was aimed to eliminate this bias by performing a retrospective study in which a large series of abscess tonsillectomies were analyzed. The patients in the abscess tonsillectomy group (63% male, 37% female; mean age 31.8 years; range 3-88 years) were compared with the elective tonsillectomy group (63% male, 37 female; mean age 30 years; range 2-83 years). The difference between these two rates was not significant ($p=0.056$). The fairly high rate of hemorrhages in the elective tonsillectomy group was mainly due to the effect of the age-matching¹². The incidence of peritonsillar abscess among patients of 5-59 years of age is 30.1 per 100000 person years. Approximately 30% of patients with peritonsillar abscess are expected to exhibit relative indications for a tonsillectomy¹³. In this study per-operative hemorrhage in group A was mild in 53% of patients and severe in 10% of patients as compared to group B in which mild hemorrhage was noted in 43.3% and severe in 16.7% which was not insignificant, which is keeping with other studies. However some of the authors found that there was significantly less peroperative hemorrhage if tonsillectomy was performed using the KTP laser, but it did cause more postoperative pain and a higher rate of both reactionary and secondary hemorrhage which was not significant when compared with conventional dissection¹⁴. Klug et al in their study quantify the risk factors of hemorrhage of post-tonsillectomy, in which high age, greater per-operative blood loss and high per-operative blood pressure were significantly associated with post tonsillectomy hemorrhage. In one study it is reported that there is three times higher risk during abscess tonsillectomy as compared to cold tonsillectomy¹⁵. Post tonsillectomy pain is very concerned to the patients that may last for 7 days or more. Evidence suggests that following tonsillectomy pain level may actually increase between postoperative days 3 and 5, although usually controllable, severe cases of postoperative pain can lead to poor oral intake and dehydration¹⁶. There were two studies regarding quinsy tonsillectomy versus interval tonsillectomy, both of these studies looked at hospital stay versus time lost from work. When they looked at the initial hospitalization

stay, they found that there was no significant difference between the two strategies. However, when they added on the second hospitalization for interval tonsillectomy, both found that there was a difference in hospital stay as well as lost time from work¹⁷. The significant difference in the postoperative pain on the first postoperative day in the hot tonsillectomy compared to the cold dissection group was 27% and 12% respectively. However, there was no significant difference in the pain between the groups on 10th postoperative day¹⁸. Bitar et al 2007 conducted a prospective randomized controlled study to assess the amount of intra operative blood loss, immediate and late complications. Postoperative pain, return to normal activity and diet, 143 patients were studied 77 in group 1 and 60 in group 2. There was no significant difference in the postoperative bleeding but more blood loss in group 1 and more dehydration in group 2 were encountered⁴.

CONCLUSIONS

Early interval tonsillectomy is an easy and safe procedure for peritonsillar abscess. Although it is an efficient method but associated with a number of complications. These complications can be prevented with good surgical techniques, aseptic measures and effective prophylactic antibiotics. It is recommended that early interval tonsillectomy is the first treatment option for patients with peritonsillar abscess with good antibiotics cover preoperatively.

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