ORIGINAL ARTICLE

Early Interval Tonsillectomy as Compared to Delayed Interval Tonsillectomy Reduces the Risks of Complications - A Comparative Study

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ABSTRACT

Background: Peritonsillar abscess (PTA) is accumulation of pus in the peritossillar tissue, follows either an acute infection spreads to peritonsillar space or due to the obstruction of the ducts of minor salivary glands (Weber glands), causingstasis in the duct which results in infection leading to cellulitis, resulting the peritonsillar abscess. The immediate treatment is evacuation of pus either through needle aspiration and or incision drainage, followed by either early interval tonsillectomy (EIT) or delayed interval tonsillectomy (DIT)

Methods: Sixty patients of peritonsillarabscess are selected,in thirty patients early interval tonsillectomy was performed while in the other thirty patients delayed interval tonsillectomy was done. This study was conducted in ENT Unit-I, Services Hospital, Lahore from Aug 2012 to Sep. 2016.

Aim: To compare per and post-operative complications in patients of PTA undergoing early and delayed interval tonsillectomies in respect of pain, hemorrhage and hospital stay.

Results: The age range in both groups was 13-46 years. The male to female ratio in group I was 2.3:1 and in group II it was 1.3:1. Per-operative hemorrhage in group I is mild in (53.3%), moderate in (36.7%).and severe in (10%). While in group II is mild hemorrhage in (43.3%), moderate in (40%) and severe in (16.7%). One case in each group suffered from primary hemorrhage. Single case in group II had secondary hemorrhage. Postoperative pain in group I, was mild in (66.7%), moderate in (26.7%) and severe in (6.7%)while in group II it was mild in (26.7%), moderate in (56.7%) and severe in (16.7%).

Conclusion: Early interval tonsillectomy has a lower incidence of postoperative hemorrhage, pain and hospital stay as compared with delayed interval tonsillectomy.

Keywords: Peritonsillar abscess (PTA), Postoperative complications, early interval tonsillectomy

INTRODUCTION

Peritonsillar abscess (quinsy) and peritonsillitis are ENT emergencies (Johnson RF 2002). A peritonsillar abscess (PTA) is a localized accumulation of pus in the peritonsillar tissues that forms as a result of Suppurativeperitonsillitis (Gershon and Segal, 2006). The nidus of accumulation is located between the capsule of the palatine tonsil and the superior constrictor muscle of the pharynx. The anterior and posterior pillars, torus tubarius (superior), and pyriform sinus (inferior) form the boundaries of potential peritonsillar space (Gosselin, 2005) because it is composed of loose connective tissue, so infection of this area may rapidly lead to formation of pus.Inflammation and suppuration may involve the soft palate, the lateral wall of the pharynx and sometime the base of the tongue. Patients usually require hospitalization for intravenous antibiotics and parenteral fluids before definitive treatment (Lee and Montague 2003). The immediate treatment is evacuation of pus either through needle aspiration or incision drainage (LeBlond and DeGowin 2004). It is generally accepted that the development of the peritonsillar abscess either an acute infection spreads to peritonsillar space causing peritonsillar cellulitis or it is due to the obstruction of the ducts of minor salivary glands (Weber glands), which lie in the tonsillar fossa (Kazzi, El-Sayed 2004).Expansion of the abscess may lead to extension of the inflammation into adjacent fascial compartments of the head and neck, potentially leading to airway obstruction (Friedman 1997). The treatment of PTA is considered to be medical therapy and surgical intervention. The surgical treatment involves needle aspiration, incision drainage and tonsillectomy.The procedure of tonsillectomy done in PTA patient on emergency basis without prior needle aspiration and incision & drainage is known as abscess /quinsy tonsillectomy (Brojerdian 2000). On the other hand if the procedure is delayed for 6-8 weeks after the needle aspiration and incision & drainage it is called

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interval tonsillectomy (Raut and Yung 2000) 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 shortened (Johnson and Alvi 2003) There is increased incidence of post-tonsillectomy hemorrhage (PTH) in patients who underwent abscess tonsillectomy within the first 24 hours, especially on the side contralateral to the abscess (Roland Giger, 2004) The post tonsillectomy is pain, associated with much discomfort that may last for 7 days or more (Timms 2002). 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 dehydration. (Grobler2006). Over times, mostlysurgeonsprefer interval tonsillectomy over quinsy tonsillectomy because at that time better antibiotics and better anesthesia facilities were not available.

The aim of this study is to compare per and post-operative complications in patients undergoing early interval tonsillectomy and delayed interval tonsillectomy after 70

MATERIALS AND METHODS

The study was conducted in ENT Department at Services Hospital, Lahore.A sample size of sixty patients divided into two groups I & II. Thirty for early interval tonsillectomy (GroupI) and thirty for delayed interval tonsillectomy (groupII). Peritonsillarabscess wasdrained either Needle aspiration or Incision drainageprocedure. The pre-operative preparation for the patients included their informed consent, lab investigations, recording the Vitals and NPO for eight hours before surgery. The patients were given general anesthesia, the endotracheal tube applied. The two procedures of tonsillectomy adopted are

I. Early interval tonsillectomy in which, tonsillectomy is done around 5 days of incision drainage, when the acute phase of infection is well settled down by incision drainage and antibacterial therapy.

II. Delayed interval tonsillectomy: In which, tonsillectomy is done after 8 weeks of incision drainage and parenteral antibacterial therapy.

Per-operative and post-operative hemorrhage, Post-operative pain Post-operative recovery period & Total hospital stay of each patient are noted. We compared the outcome parameters between the two groups of patients of this study. Data was analyzed through SPSS Verl0.

RESULTS

The age range in group I was 12 patients (40%) in 10-20 years, 13 patients (43.3%) in 21-30 years, three patients (10%) in 31-40years, and two patients (6.7%) in 41-50 years. In group II, 11 patients (36.7%) in 10-20 years, 17 patients (56.7%) in 21-30 years, one patient (3.3%) in 31-40years, and one patient (3.3%) in 41-50 years. The age range of group I was 13-45 years and in group II it was 13-46 years. The p value was >0.623 (statistically not significant). Findings of per-operative hemorrhage were in group I, mild hemorrhage was found in 16 patients (53.3%), 11 patients (36.7%). moderate hemorrhage occurred in 3 patients (10%). In group 11, mild hemorrhage was found in 13 patients (43.3%). 12 patients (40%) were moderate position and 5 patients (16.7%) were hemorrhage. The p value was 0.332 (statistically not significant). The findings of post-operative hemorrhage were in group I, 29 patients (96.70 %) and in group II, 28 patients (93.3%) had no post-operative bleeding. One case in group I and also one case in group 11 suffered from primary hemorrhage. Only one case (3.3%) of group II had faced secondary hemorrhage. The p value was 0.414 (statistically not significant) The findings of postoperative pain were in group 1, mild postoperative pain was found in 20 patients (66.7%), moderate in 8 patients (26.7%) and severe in 2 patients (6.7%). while in group II, mild post-operative pain was found in 8 patients (26.7%), moderate in 17 patients (56.7%) and severe in 5 patients (16.7%). The p value was 0.007 i.e., statistically very significant. The duration of hospital stay is in group I, the hospital stay less than one week was found in 23 patients (76.70 %) and more than one week stay was found in 7 patients (23.3%) while in group II, stay less than one week was in 4 patients (13.3%) and 26 patients (56.7%) had more than one week stay. The p value was <0.001 (statistically highly significant).The follow-up after one week for oral intake is shown. During the First week of follow up in group I, 22 patients (73.3%) had normal oral intake and 8 patients (26.7%) had poor oral intake. Whereas in group 2, the normal oral intake was found in 20 patients (66.7%) and poor oral intake was in 10 patients (33.3%). The p value was 0.527 (statistically not significant).The follow-up after one week, for pain, All the patients in the group I were found pain free and only one patient (3.3%) in groups 11 had pain. The p value was >05 (statistically not significant). At two weeks of follow up all patients of both groups was pain free with normal oral intake.

DISCUSSION

In tonsillectomy bleeding is most commonly encountered after five to ten days. Post-operative bleeding is more likely in teenagers, as compare to younger children. The tonsillar fossae usually become infected with bacteria, and often cause a low-grade fever. It is seen that dissection is difficult in interval tonsillectomy in a patient who had peritonsillar abscess, because dense adhesion are formed between the tonsillar capsule and its bed while the plane of loose areolar tissue separating tonsil from its bed facilitate easy dissection. In PTA who is undergoing tonsillectomy after 6 weeks of abscess formation this plane is obliterated making dissection very difficult resulting difficult dissection, post-operative pain, decrease oral intake and increase incidence of primary and secondary hemorrhages. The concept of early interval tonsillectomy was conceived on this basis that tonsillectomy in PTA should be less traumatic when undertaken before the full development of fibrosis after I/D is done, and infection, managed by appropriate parenteral antibiotics. There should be no contraindication in doing tonsillectomy within first week of I/D. So, while no fibrosis has still settled in, tonsillectomy was considered as early interval tonsillectomy and the standard interval tonsillectomy as delayed interval tonsillectomy to differentiate it from early interval tonsillectomy. The Peritonsillar abscess (PTA) most commonly occurs in the third and fourth decades of life (Johnson et a1 2003). PTA is most commonly seen in age 20-40 years. In the present study, the mean age (iSD) of group I, was 24.7 -7.63 years and in group II, it was 23.97-7.07 years. The p value was >0.623 (statistically not significant). Page and Peltier et al in 2007 completed a study on therapeutic management of peritonsillar abscesses (quinsy). The diagnosis was clinical in 9800 of cases. 6500 of patients had one needle aspiration of the abscess, 35% had incision and drainage (I&D). The patients were completely cured in 10 days. 45% of patients underwent interval tonsillectomy at a later date. In my study, the findings of per-operative hemorrhage in group I. was mild in 16 patients (53%) and severe in 3 patients (10%) as compared to group II in which mild hemorrhage was noted in 13 patients (43.3%) and severe in 5 patients (16.7%) The p value was 0.332 (statistically not significant). During the surgery it was noted that most of the patients of group I, had mild to moderate bleeding and the tonsils were dissected easily. On the other hand bleeding during tonsillectomy of the group 11 patients was moderate to severe a bit higher than group I, one thing was repeatedly noted that in most of the group II patients, the tonsil on the diseased (PTA) side was a bit difficult to dissect out because of the fibrosis in the tonsillar bed. Klug et al (2006) in their study quantify the risk of post-tonsillectomy hemorrhage. The following factors correlated significantly with posttonsillectomy hemorrhage PTH: high age (p=0.0093), greater perioperative blood loss (p=0.026) and high perioperative blood pressure (p=0.0007). In addition, the author found a three times higher but insignificant (p=0.26) risk during abscess tonsillectomy as compared to cold tonsillectomy. In the current study it was noted that two of the patient one in group I and another in group II, who had post-operativehemorrhage were in age group of 40-46 years. In this study the patients of group I, who underwent early interval tonsillectomy (EIT) the single case who had hemorrhage was from contralateral side. On the other hand the two cases of post-operative hemorrhage in group II had bleeding from ipsilateralside.The pain following tonsillectomy is far biggest concern of the patients, associated with much discomfort, causing severe pain that may last for 7 days or more (Timms 2002). 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 dehydration. (Grobler 2006).

In group I, moderate post-operative pain during hospital stay was observed in 8 patients (26.7%) and severe pain was found in 2 patients (6.7%) and in group 11, moderate pain was in 17 patients (56.7%) and severe pain in 5 patients (16.7%). The p value was 0.007 i.e., statistically very significant. In this study, the hospital stay in group I was up to one week, 23 patients (76.7%) and in group II, 26 patients (56.7%) had more than one week i.e., double stay, while compared to group I, p value was <0.001 (statistically highly significant). Most of the patient of group I who had underwent early interval tonsillectomy (EIT) required only single hospital admission with total hospital stay up to 1 week, and both the immediate required procedures like (needle aspiration or I/D) as well as definitive treatment in the form of EIT were made possible in one setting.In our study, the follow-up after one week, all the patients in the group I were found pain free and only one patient (3.3%) in groups II had pain. The p value was >05 (statistically not significant). Follow-up after two weeks: oral intake was normal in all patients, and also no pain in all patients of both groups.

CONCLUSION

Early interval tonsillectomy has a lower incidence of postoperative hemorrhage and pain as compared with delayed interval tonsillectomy with an added advantage of single hospital stay.

REFERENCES

1. Brojerdian S, Bisschop P. Clinical advantage of abscess tonsillectomy peritonsillar abscess. ActaOtorhinolaryngolBelg 2000; 54: 459-64.
2. Friedman M, LoSavio P, Ibrahim H, Ramakrishnan V. Radiofrequency tonsil 105 reduction: safety, morbidity, and efficacy". Laryngoscope 2003; 113'. 882 -7.
3. Gosselin BJ. Peritonsillar abscess. eMedicine (Internet). 2005,
4. Johnson BC, Alvi A. Cost-effective workup for tonsillitis. Testing, treatment and potential complications. Postgrad Med 2003', 113:115-2l.
5. Johnson RF, Stewart MG, Wright CC. An evidence-based review of the treatment of peritonsillar abscess. Otolaryngol Head Neck Surg 2003; 128: 332-43.
6. Johnson RF. Peritonsillar abscess. BCM 2002', 8: 1-8.
7. Kazzi AA, El-Sayed M. Peritonsillar abscess. eMedicine's Ear, Nose and Thom Centre 2004; 6-9.
8. Klug TE, OvesenT.ArhusSygehus, Greg Naeseog, Halsafdeling H. Posttonsillectomy hemorrhage: incidence and risk factors. UgeskrLaeg 2006; 168:2559-62.
9. Lee MS, Montague ML, Hussain SS. The admission of patients with peri-tonsillar abscess to a general ENT ward. ClinOtolaryngol Allied Sci 2003; 28'. 48-50.
10. Raut VV, Yung MW. Peritonsillar abscess: The rationale for interval tonsillectomy. Ear, Nose Throat J 2000; 79:206-9
11. Roland Giger, Basile Nicolas Landis, PavelDulguerov, Hemorrhage Risk after Quinsy Tonsillectomy, J Otolaryngol 2005; 133: 729-34.
12. Timon CI, McAllister VA, Walsh M, Cafferkey MT. Changes in tonsillar bacteriology of recurrent acute tonsillitis: 1980 vs. 1989. 1990; 84:395 400.