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POST-TONSILLECTOMY HEMORRHAGE AND PAIN IN DISSECTION AND DIATHERMY METHODS OF TONSILLECTOMY

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ABSTRACT

Objective: To compare the frequency of post-tonsillectomy hemorrhage and severity of pain by Dissection and Diathermy method of tonsillectomy.

Material and Methods: All the cases (100) that presented during six months of duration were included in the study by Simple Random Sampling in the Department of ENT and Head and Neck Surgery, Holy Family Hospital, Rawalpindi from November 2009 to April 2010. The study design was randomized control trial. They were divided into two groups A and B fifty each. Tonsillectomy done in group A by dissection method and group B by diathermy method. Pain and bleeding was compared in both groups during post operative hospital stay and 7th day follow up in outpatient.

Results: Results are significant for post operative pain. Post-operative pain in dissection method is less than that of Diathermy method. However, no significant difference is noted in post operative hemorrhage in these two techniques.

Conclusion: Dissection method is safer than diathermy method regarding post operative pain while bleeding was slightly greater in diathermy method.

Key Words: Tonsillectomy, dissection, diathermy.

INTRODUCTION

Tonsillectomy is the most common surgical procedure performed by otolaryngologist. *Celsisus* first described the procedure of tonsillectomy in *De. Cague of Rheims did Medicina* in 10 A.D and first documented surgery was in 1757[1]. Indications of tonsillectomy are; hypertrophy causing upper airway obstruction obstruction, sleep apnea, recurrent infections (three infection in a year for three years, five infections per year for two years, seven or more infections in one year, or more than two missed weeks of school, or work in a year), peritonsillar abscess, suspicion of malignancy, either unilateral enlargement of tonsill or search for unknown primary, hypertrophy which causes swallowing problems, recurrent tonsillitis causing febrile seizures and diphtheria carrier[2,3].

The most common complication after tonsillectomy is hemorrhage. Other complications include pharyngeal pain, dehydration, pyrexia, odynophagia, nausea, halitosis, otalgia, uvular edema, atlantoaxial subluxation, mandibular condylar fracture, infection, Eustachian tube injury and psychological trauma[4].

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MATERIAL AND METHODS

This was a randomized control trial in which 100 patients in six months by random sampling were included in the study from Department of ENT and Head and Neck Surgery, Holy Family Hospital, Rawalpindi. Sample size is of hundred patients. The patients were divided into two groups; A (dissection method hemostasis by silk) and B (diathermy method by bipolar), each with fifty patients.

Patients with only tonsillectomy of ages between 5 years to 35 years were included in this study. Exclusion criteria included Bleeding disorders, Quinsy and Females during menstrual cycle and patients with adenoid hypertrophy.

All the patients were admitted through Out Patient Department. A detailed history was taken and general physical examination along with ear, nose, and throat examination was done. Laboratory investigations like complete blood picture, erythrocyte sedimentation rate, platelet count, bleeding time, clotting time, prothrombin time, activated partial thromboplastin time, hepatic viral serology was done. In radiological examination, X-ray lateral view of soft tissue neck was done to exclude adenoid hypertrophy as it is included in exclusion criteria. Whole operative procedures were explained to the patients and their relatives and informed consent obtained and operated by the same surgeon.

All the procedures were done under general anesthesia. First generation Cephalosporin (Cephradine) was given through intravenous route along with intra muscular Diclofenac sodium during 3 days stay of patient in hospital. The patients were observed for any bleeding from mouth during his/her stay in the ward as well as at the 7th post-operative day. Pain was measured in both groups during stay in ward by using visual analogue scale.

Data stored and analyzed by using SPSS version 13. A chi-square test is used to compare hemorrhage and pain after tonsillectomy by Dissection and Diathermy Method. P value <0.05 is taken as significant.

RESULTS

Out of one hundred patients forty three were males and fifty seven were females. The age of patients varied from five to thirty five years. Mean age was 14.56 years + 7.67. SD. Chi square test and SPSS were applied to test the significance of Hemorrhage in both groups. All two categories i.e. reactionary and secondary were compared in two groups. P value was found to be < 0.001 which is significant. All four categories i.e. no pain, mild pain, moderate pain, severe pain, were compared in two groups. P value was found to be < 0.001. Hence our test is significant showing that with diathermy method of tonsillectomy pain is more than dissection method. Comparison of post-operative haemorrhage and pain in group A and B are shown in Table 1 and 2 respectively.

Table 1: Comparison of post operative hemorrhage in different groups and their gender distribution

	Tonsillectomy method			
Parameters	**Group A dissection method**		**Group B dissection method**	
	M	**F**	**M**	**F**
	17	33	26	24
No hemorrhage	17	31	25	21
Reactionary	0	2	0	0
Secondary	0	0	1	3

Table 2: Comparison of post operative pain in different groups and their gender distribution

Parameters	**Group A dissection method**		**Group A dissection method**	
	M	**F**	**M**	**F**
No pain	3	9	2	2
Mild pain	11	19	16	14
Moderate pain	3	5	5	5
Severe pain	0	0	3	3
Total	17	33	26	24

DISCUSION

Tonsillectomy is the most commonly performed ENT procedure in the world[5]. Through out the history investigators and surgeons have developed new techniques for tonsillectomy aiming to lessen the post operative morbidity and complications of tonsillectomy.

The most common complications are pain and bleeding, but patients may also experience difficulty in swallowing, nausea, vomiting, throat and ear pain, weight loss, dehydration, fever, and airway obstruction[6,7].

In our study, the incidence of reactionary hemorrhage is 2% and the rate for secondary hemorrhage is 4%. Transfusion or further surgery, particularly in children, may be required after primary hemorrhage. One in every 40,000 patients dies from bleeding due to reactionary hemorrhage after tonsillectomy[6,8] but in our study no mortality occurred after tonsillectomy.

In a systematic review of 250 people having tonsillectomy, adenotonsillectomy by dissection, or diathermy techniques found that diathermy significantly reduced intraoperative bleeding compared with dissection[9]. We also found no reactionary hemorrhage in group B who underwent tonsillectomy by diathermy method and secondary hemorrhage was 8% in the group B who underwent tonsillectomy by dissection method. 4% patients developed reactionary hemorrhage and none with secondary hemorrhage. In our study period we did not take any post operative patient with hemorrhage of any group to operation theatre for hemostasis.

There is no consensus about the best method of tonsillectomy. This study was planned to compare the results of tonsillectomy performed with bipolar diathermy with that of tonsillectomy with conventional dissection-snare method. Using the visual analogue scale as an indicator of pain severity, in our study significant difference was found, patients with tonsillectomy by dissection method complain of less post operative pain as compare to the patients with Diathermy method. Similar findings were noted by Leinbach RF[10] and Markwell SJ et al[11].

CONCLUSION

For reduction in post-operative pain dissection method should be preferred and to reduce post-operative bleeding, tonsillectomy by polar method should be adopted.

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