

Original Article

Post Tonsillectomy Hemorrhage Incidence, a Comparison between Dissection and Bipolar Diathermy Techniques

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ABSTRACT

Objective: To compare the incidence of post operative hemorrhage after tonsillectomy with dissection and with bipolar diathermy.

Patients and Methods: This comparative study was carried out in Department of ENT and Head and Neck Surgery, Shifa International Hospital, Islamabad from June 2004 to July 2008. It included 300 patients with chronic tonsillitis in the absence of bleeding diathesis or nasal pathology. They were divided into 2 groups of 150 patients each and were labeled as dissection group and coagulation group. They were followed in OPD on 7th and 14th post operative days and any bleeding per mouth at home was inquired. The data was analyzed using SPSS V 13.

Results: A total 8 patients (2.6%) developed hemorrhage, all were secondary, and 3 (2%) were from dissection group and 5 (3%) from coagulation group (p=NS).

Conclusions: Bipolar diathermy can be safely adopted for tonsillectomy because of no significant difference from post tonsillectomy hemorrhage with dissection technique. (Rawal Med J 2009;34: 23-25).

Key Words: Tonsil, tonsillectomy, dissection.

INTRODUCTION

Tonsillectomy has traditionally been performed by dissection method, referred to as the cold method. There are other methods that evolved over a period of time to improve the quality of the procedure and reduce its complications. One of these is the bipolar diathermy referred to as hot method.¹ Use of bipolar diathermy and other methods like LASER have been shown to decrease intra-operative bleeding and improve recovery time after the procedure.² Other studies have shown that post-operative morbidity in pediatric age group is reduced after hot dissection tonsillectomy.³ In this study, we compared the incidence of postoperative bleeding after cold and hot methods.

PATIENTS AND METHODS

The study was conducted in the department of ENT and Head and Neck Surgery, Shifa International Hospital, Islamabad from June 2004 to July 2008. A total of 300 patients with chronic tonsillitis, both adult and pediatric age group, were included in the study. Those with acute infection, nasal pathology and history of bleeding diathesis were excluded. Patients were divided into two groups each containing 150 patients. Those underwent tonsillectomy with the conventional dissection method with tonsillar dissector were labeled as dissection group. The second group, named as coagulation group, underwent tonsillectomy with bipolar diathermy technique. All patients were given intravenous antibiotics after the procedure and were discharged on the first post-operative day. They were advised oral broad spectrum antibiotics and analgesics at the time of discharge and were asked to report any bleeding from mouth at home. They were followed in ENT OPD at 7th and 14th post-operative day. At this time, tonsillar fossae were examined carefully for any bleeding point, blood clot or slough and a history of bleeding per mouth was elicited. The data was analyzed in SPSS V 13.

RESULTS

Mean age of patients was 15 years. There were more patients with age of 16 years and more (Table-1).

Table 1. All Cases Gender and Age Groups Frequency.

All Cases Gender Frequency			All Cases Age Groups Frequency		
	Frequency	Percent		Frequency	Percent
Male	176	58.7	Less than 16	190	63.3
Female	124	41.3	More than 16	110	36.7
Total	300	100.0	Total	300	100.0

Both the study groups were demographically comparable (Table 2).

Table 2. Coagulation & Dissection group Gender and Age Groups Frequency

Coagulation Group Gender Frequency			Coagulation Group Age Groups Frequency		
	Frequency	Percent		Frequency	Percent
Male	85	56.7	Less than 16	89	59.3
Female	65	43.3	More than 16	61	40.7
Dissection Group Gender Frequency			Dissection Group Age Groups Frequency		
Male	91	60.7	Less than 16	101	67.3
Female	59	39.3	More than 16	49	32.7
Total	300	100.0	Total	300	100.0

Total 8 cases (2.6%) of hemorrhage were seen post-operatively occurring between 7th and 10th post-operative days and hence were called secondary hemorrhage. Three cases (2%) were from the dissection group while five cases (3%) were from the coagulation group (Table-3). On applying chi-

square test, there was no statistically significant difference ($p < .05$) between the incidences of hemorrhages of two groups (Table-4).

Table 3. Hemorrhage and Method.

		Hemorrhage		Total
		Hemorrhage	No Hemorrhage	
Method	Dissection	3	147	150
	Coagulation	5	145	150
Total		8	292	300

DISCUSSION

The most common complication seen after tonsillectomy is hemorrhage. This can be primary, reactionary or secondary. Primary hemorrhage occurs at the time of the procedure, reactionary hemorrhage occurs within twenty four hours after surgery and secondary hemorrhage occurs between 5th to 10th days post-operatively.

Table 4. Method, operation, age group, gender, Hemorrhage.

Method	Operation	Age Group	Gender	Hemorrhage	No Hemorrhage	Total
Dissection	Tonsillectomy	Less than 16	Male	1	24	25
			Female	0	18	18
			Total	1	42	43
		More than 16	Male	2	21	23
			Female	0	24	24
			Total	2	45	47
	Adenotonsillectomy	Less than 16	Male	0	42	42
			Female	0	16	16
			Total	0	58	58
		More than 16	Male	0	1	1
			Female	0	1	1
			Total	0	2	2
Coagulation	Tonsillectomy	Less than 16	Male	0	20	20
			Female	1	13	14
			Total	1	33	34
		More than 16	Male	3	29	32
			Female	1	28	29
			Total	4	57	61
	Adenotonsillectomy	Less than 16	Male	0	33	33
			Female	0	22	22
			Total	0	55	55
Total				8	292	292

Various other methods have been practiced for tonsillectomy aimed to decrease intra-operative bleeding and post-operative morbidity.⁴ One of the newer methods uses bipolar diathermy for tonsillectomy, referred to as the hot knife. This procedure is becoming a preferred option owing to the low intra operative bleeding rates^{5,6} and short time off the school or work.⁷ Studies have shown that bipolar tonsillectomy is a relatively safe technique with a similar morbidity to the cold dissection method and hence can be preferred in all especially the younger age group.^{8,9}

Some authorities are of the opinion that hot dissection tonsillectomy increases the morbidity in the recovery period especially after the discharge from hospital.¹⁰ They still consider cold dissection to be an effective method with less post-operative morbidity¹¹ and prefer hot dissection method for patients with bleeding disorders.¹² This is because results of some studies have shown hot dissection to be associated with more secondary hemorrhage.¹³⁻¹⁴

Another technique in hot knife method is the use of monopolar dissection tonsillectomy. It is also considered as safe and reduces the operative time and intra-operative blood loss.¹⁵ Results of our study are consistent with other studies in the literature.^{16,17} The hemorrhages seen were secondary in both the groups and occurred between 5th to 10th post operative days. All were managed conservatively without any restitching in the theater or blood transfusion. In conclusion, bipolar diathermy can be safely adopted for tonsillectomy because of no significant difference from hemorrhage with dissection technique. It is also associated with less intra-operative bleeding which is beneficial in younger age group.

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