

# **FREQUENCY OF POST-TONSILLECTOMY HAEMORRHAGE FOLLOWING TONSILLECTOMY WITH BIPOLAR DIATHERMY—AN EXPERIENCE AT AYUB TEACHING HOSPITAL, ABBOTTABAD**

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**Background:** Tonsillectomy remains one of the most common surgical procedures performed in the world. Various techniques have evolved over the years. One of the most significant complications is postoperative hemorrhage. There is a general perception of increased frequency of PTH with the electro-cautery technique. A prospective study was designed to determine the frequency of post-tonsillectomy haemorrhage (PTH) following tonsillectomy with bipolar diathermy at ENT department, Ayub Medical College & Teaching Hospital, Abbottabad. **Method:** 246 patients of varying ages and both sexes were operated by the same consultant using bipolar diathermy, during the period of April'2001 to March'2003. All the patients had antibiotic prophylaxis and analgesia on regular basis. Patients were hospitalized for 24-48 hours and were reviewed after one week. **Results:** 9 (3.6%) patients presented with PTH. These presented between day 3 and 11. Four (1.6%) presented with active bleeding, 3 (1.2%) presented with clot in the tonsillar fossa and 2 (0.8%) had a history of bleeding per-orally at home but did not have evidence of bleeding on arrival. All the patients were hospitalized and treated with a broad spectrum intravenous antibiotic, parenteral analgesia and intravenous fluids. None of the patients needed surgical intervention. **Conclusion:** Tonsillectomy with bipolar diathermy doesn't carry risk of PTH different from other standard techniques. It has the added benefit of minimal per-operative bleeding which bears significance in pediatric population. However adequate training in its use is mandatory to avoid thermal damage to the tissues.

**Key words:** Tonsillectomy, post-tonsillectomy haemorrhage, bipolar diathermy

## INTRODUCTION

Tonsillectomy remains one of the most common surgical procedures performed in the world.<sup>1</sup>

Various techniques have evolved over the years, however, neither the indications for tonsillectomy nor the complications associated with the procedure have changed much.<sup>2</sup>

Hemorrhage is the most common, significant complication of tonsillectomy,<sup>3</sup> and various factors have been implicated for its occurrence, including the technique.

We study the frequency of PTH with bipolar diathermy dissection tonsillectomy.

Bipolar electro-dissection technique limits tissue damage and intra-operative blood loss along with more accurate coagulation of the bleeding vessels. In this technique, following access into the peritonsillar space, tonsil is dissected out using bipolar electrocautery, securing haemostasis at the same time. Less intra-operative blood loss and surgical time are two important factors that have successfully popularized the application of this technique, especially in paediatric population.

## MATERIAL AND METHODS

This study was conducted in the ENT, Head & Neck surgery department of the Ayub Teaching Hospital, Abbottabad, during the period of April 2001 to March 2003.

Two hundred and forty-six patients with history of recurrent tonsillitis, five or more episodes in the last one year, were included in this study.

Patients with history of a recent acute tonsillitis or any upper respiratory tract infection within the last three weeks, history of an episode of peritonsillar abscess, known hypertensive, diabetics, renal impairment, liver disease or on anticoagulation therapy were excluded.

A detailed history of the recurrent sore throats and defined criteria were met to make the diagnosis of chronic/ recurrent tonsillitis. Patient/ Parents were counseled and treatments options were discussed. Subjects opting for surgical treatment were booked for surgery. Same surgeon (SAS) operated on all the subjects. Antibiotic prophylaxis was given in all the patients and discharged from hospital after 48 hours with instructions for home, including the risk of haemorrhage for upto two weeks. All patients were advised to report an incidence of bleeding immediately. Patients who reported were admitted, assessed and treated accordingly.

Data was manually analyzed to calculate frequency of PTH.

## RESULTS

Nine (3.6%) patients presented with PTH. These presented between day 3 and 11. Four (1.6%) presented with active bleeding, 3 (1.2%) presented with clot in the tonsillar fossa and 02(0.8%) had a history of bleeding per-orally at home but did not have evidence of bleeding on arrival.

## DISCUSSION

Tonsillectomy remains one of the most common surgical procedures performed in the world. One of the most significant complications is postoperative hemorrhage.<sup>1</sup>

Episodes of post-tonsillectomy hemorrhage are unpredictable and potentially life-threatening.

Post-tonsillectomy bleeding occurs in approximately 1 of 20 adults independent of individual patient characteristics<sup>4</sup>, however, the exact incidence of postoperative tonsillar bleeding is very difficult to determine. The statistics in the literature range from 0% to 20%<sup>5,6,7</sup>.

Surgical technique and equipment have evolved tremendously over the centuries aiming at decreasing operating time and intraoperative blood loss.<sup>2</sup>

Excessive intraoperative blood loss is one of the significant risk factors for post-tonsillectomy hemorrhage<sup>8</sup>.

Currently, cold dissection, hot knife dissection and bipolar diathermy dissection are the most commonly used techniques worldwide and intraoperative blood loss is far less with electrocautery than with cold dissection technique.<sup>9</sup>

The development of electrocautery for removing tonsils represents the major advance in tonsillectomy of the 20th century. An alternative to cold-knife surgery, electrocautery is used to make the mucosal incision and dissect tissue.<sup>2</sup>

There is a general perception of increased frequency of PTH with the electrocautery technique and that is supported by a recent survey claiming figures of 9 to 10 %, but not to forget that majority of procedures were performed by the junior staff, as claims a survey report.<sup>10</sup>

Contrary to this other studies have reported frequency of PTH with bipolar diathermy not much different than with other techniques or even less and at the same time allowing low intra-operative blood loss without an increase in complications.<sup>9,11</sup>

Bipolar diathermy tonsillectomy has been compared with cold and hot knife dissection techniques and has been found a better choice on account of less bleeding, both intra and postoperatively, shorter recovery period and fewer days off from work and school.<sup>9</sup> Our study has also revealed frequency of PTH following bipolar diathermy tonsillectomy comparable to other studies.

## CONCLUSION

Bipolar diathermy dissection technique allows a shorter operating time and low intra-operative blood loss without an increase in complications. The technique is an easy procedure to learn and the financial impact is affordable. It should be used with appropriate caution, and only after proper training. Frequency of PTH with this technique is comparable with other techniques in common use. The technique is specially recommended in the children population owing to its low bleeding feature. Further clinical research is necessary to support the results of our study.

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