

Lip injury prevention during tonsillectomy

A. S. EVANS, M.R.C.S., D.L.O., A. EL-HAWRANI, F.R.C.S., A. LODHI, F.R.C.S.*, A. THOMPSON, F.R.C.S. (ORL)*

Abstract

Patients commonly complain of discomfort at the angle of the mouth following tonsillectomy. This can be attributed to trauma sustained during the procedure. A prospective, patient-blinded, controlled trial of 34 tonsillectomies was performed using a protective, plastic oral guard. A blinded observer recorded post-operative pain and clinically evident trauma to the angle of the mouth. The patient group in whom the guard was used had a significantly lower incidence of labial trauma ($p < 0.002$) and complained of pain less frequently ($p < 0.002$) when compared with a control group in whom no guard was used. The use of a protective lip guard during tonsillectomy is recommended.

Key words: Lip; Wounds and Injuries

Introduction

Patients commonly complain of discomfort around the angle of the mouth following tonsillectomy. This presents as abrasions, discolouration or angular tears resulting in unnecessary discomfort and temporary disfigurement. This can be attributable to trauma sustained by poor technique during the procedure including the sawing effect of surgical ligatures, diathermy burns and trauma from other surgical instruments. Anaesthetic techniques as well as suction of oral secretions post-operatively may also contribute.¹

There is little information available in the literature regarding the incidence of trauma to the labial commissure during tonsillectomy.

The use of protective lip guards is common in oral surgical practice. These are disposable, flexible guards which overlie the labial commissure and retract the lips laterally thus improving intra-oral exposure (Figure 1). We hypothesized that the use of the same guards during tonsillectomy would reduce the rate of trauma to the corner of the mouth and subjective patient discomfort.

Method

A prospective, patient-blinded, controlled trial of 34 tonsillectomies was performed. Patients requiring a return to theatre for control of primary haemorrhage were excluded. The operative technique was standardized to cold steel dissection tonsillectomy and ligation haemostasis. The Boyle-Davis tonsillectomy gag was applied after the protective oral guard was



FIG. 1
The Spandex™ labial guard.

in place (Figure 2). All procedures were carried out by a consultant or a specialist registrar. The operative time was recorded. Seventeen patients (nine children, eight adults), were assigned to each treatment group. One group acted as a control having tonsillectomy performed without the use of a protective lip guard (Study Group 1) and the other with the use of a protective lip guard (Study Group 2). All patients were observed overnight following surgery. Patients were questioned about discomfort at the angles of the mouth and examined for evidence of trauma by two blinded, independent observers (senior staff nurses) the following morning.

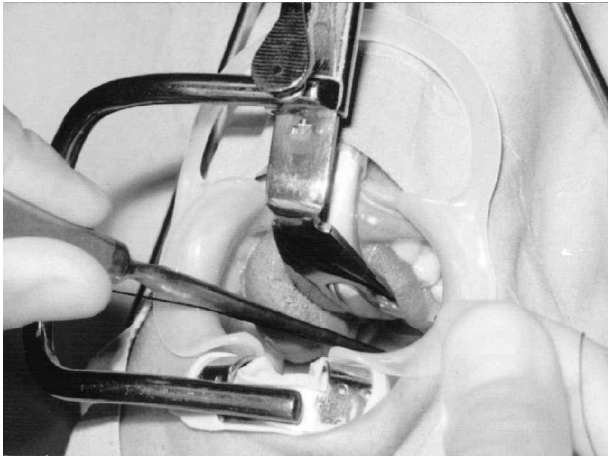


FIG. 2

Spandex™ labial guard *in situ* during tonsillectomy.

Statistical analysis of the results was performed using Fisher's exact test.

- **This paper reports the use of a guard to prevent trauma and pain at the corner of the mouth following tonsillectomy**
- **The paper is a prospective randomized study of a relatively limited number of patients**
- **The study concludes that pain and trauma is reduced by the use of a protective lip guard**

Results

Thirty-four tonsillectomies were performed in the study period. No primary haemorrhages occurred. The mean operating time in Study Group 1 was 28.5 minutes compared with 29.8 minutes in Study Group 2.

In the control group, in whom no guard was used (Study Group 1), 10 of the 17 patients (59 per cent) complained of pain at the corner of the mouth; six of the 17 (35 per cent) were observed to have objective evidence of commissural trauma. Only one of the 17 (six per cent), denied pain and had no objective

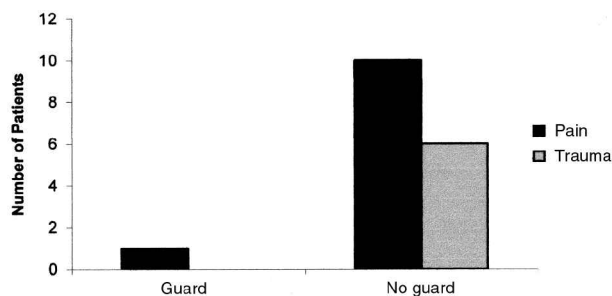


FIG. 3

Comparison of pain and evident trauma following tonsillectomy.

evidence of commissural trauma. There was no significant difference in the reporting of pain or observation of trauma between adults and children.

In the protected group (Study Group 2), only one of the 17 reported pain (six per cent) and none had any objective evidence of commissural trauma. The patient who reported pain in this group was an adult (Figure 3).

Analysis of the results shows the findings of reduced pain ($p = 0.0011$) and reduced trauma ($p = 0.0013$); when the guard was used, to be statistically significant when compared with the control group.

Discussion

Excessive mouth opening using the Boyle-Davis tonsillectomy gag may result in post-operative discomfort as well as angular tears and occasionally temporomandibular joint dysfunction.² Poorly applied instrumentation and surgical ligatures cause local trauma adding to this. It has been demonstrated that the use of a protective lip guard can significantly reduce the subjective discomfort around the corners of the mouth experienced commonly by patients following tonsillectomy, as well as reducing the frequency of observed injury. This can be largely attributed to the prevention of local trauma to these areas. It was also found that the protective guard allowed improved exposure of the tonsillar fossae and therefore less gag extension was required to achieve the same exposure. It is therefore suggested that the use of a lip guard during tonsillectomy results in less angular trauma not only by reducing local trauma but also by necessitating less gag extension. The use of the commissural guard does not significantly increase the time required to perform the surgery and does not hinder surgical technique.

Conclusion

The use of a protective oral guard in tonsillectomy significantly reduces the rate of trauma to the corner of the mouth and subjective awareness of patient discomfort post-operatively. The use of a labial guard is therefore recommended during tonsillectomy.

References

- 1 Fung BK, Chan MY. Incidence of oral trauma after administration of general anaesthesia. *Acta Anaesthesiol Sinica* 2001;**39**:163-7
- 2 Maini S, Osborne JE, Fadl HM, Spyridakou C, Ogunyemi L, Hill P. Temporomandibular joint dysfunction following tonsillectomy. *Clin Otolaryngol Allied Sci* 2000;**27**:57-60

Address for correspondence:

Mr Andrew S. Evans,
Flat 7, 81, Kirk Brae, Edinburgh EH16 6JJ, UK.

E-mail: drase25@hotmail.com

Mr A. Evans takes responsibility for the integrity of the content of the paper.

Competing interests: None declared