

Title	Complications associated with the surgical instruments used in tonsillectomies
Agency	INESSS, Institut national d'excellence en santé et en services sociaux 1195 Av. Lavigerie, bureau 60, Québec, QC, G1V 4N3; Tel: 418 643-1339, Fax: 418 644-8120; inesss@inesss.qc.ca, inesss.qc.ca
Reference	ETMIS 2012 8(4). Printed French edition 978-2-550-64473-6 http://www.inesss.qc.ca/fileadmin/doc/INESSS/Rapports/Chirurgie/ETMIS2012_Vol8No4_Amygdalectomies.pdf English summary (PDF) 978-2-550-64472-9 http://www.inesss.qc.ca/fileadmin/doc/INESSS/Rapports/Chirurgie/ETMIS2012_Vol8_No4_amygdalectomiesSUMMARY.pdf

Aim

In Québec, 3 children died within a span of 5 years from the complications of a tonsillectomy (1 per 20,000 surgeries). The most recent death prompted a coroner's inquest. In his recommendations, the coroner asked AETMIS (which is now INESSS) to look into the surgical instruments used in tonsillectomies. Thus, a systematic review of the scientific literature was conducted to evaluate the available evidence regarding hemorrhage and deaths that have occurred during or after the procedure according to the instrument used.

Conclusions and results

Despite the limitations of the identified studies and the low number of comparable studies, the results indicate that:

- There is less intraoperative hemorrhage with hot instruments than with cold instruments; the microdebrider causes more intraoperative hemorrhage, than other devices;
- The frequency of primary hemorrhage does not differ significantly between hot and cold instruments; and
- In the case of secondary or delayed hemorrhage, which generally occurs after discharge from hospital:
 - controlled studies observe frequency rates that tend to be lower with cold instruments than with hot instruments, but these differences are not significant;
 - consistently, according to the audits and large case series, there is a trend toward a lower frequency of haemorrhage with cold instruments, in particular, for hemorrhage requiring a return to the operating room; and
 - according to a more targeted systematic review, the use of Coblation®, a hot technique, causes significantly more cases requiring a return to the operating room than the use of cold instruments.

Lastly, it should be noted that tonsillar dissection with cold instruments is completed with hemostasis, that is often performed with electrosurgical instruments. Since high power settings for electrosurgery might be associated with a higher frequency of delayed postoperative hemorrhage, caution should be exercised when using these instruments.

Methods

The literature search was performed by querying the MEDLINE (by PubMed) and the Cochrane Library databases. Only articles published in English and French were selected. After applying predefined inclusion and exclusion criteria, an assessment report, four systematic reviews (one of which looks at three audit reports), a clinical practice guide and 24 original studies were selected and included in the analysis. Some Québec otorhinolaryngologists were met with to get the perspective of clinicians specializing in this field and to ascertain the current use of the different instruments in Québec.

Written by

Geneviève Martin, INESSS, Canada