Evidence in focus

Study summary

Francis DO, et al (2017)†

Low rates of post-tonsillectomy hemorrhage (PTH*) seen across commonly used techniques

PTH-associated revisit/readmission and reoperation pooled rates <5%

Literature review

Study design

- Systematic literature review and meta-analysis assessing population-level estimates of PTH and related health utilization
- Patient population: children (range, 3-18 years) undergoing total/partial tonsillectomy for obstructive symptoms or recurrent tonsillitis
- Study inclusion criteria: comparative studies (eg. randomized controlled trials, prospective or retrospective cohort studies); databases, or registry studies with >1,000 patients

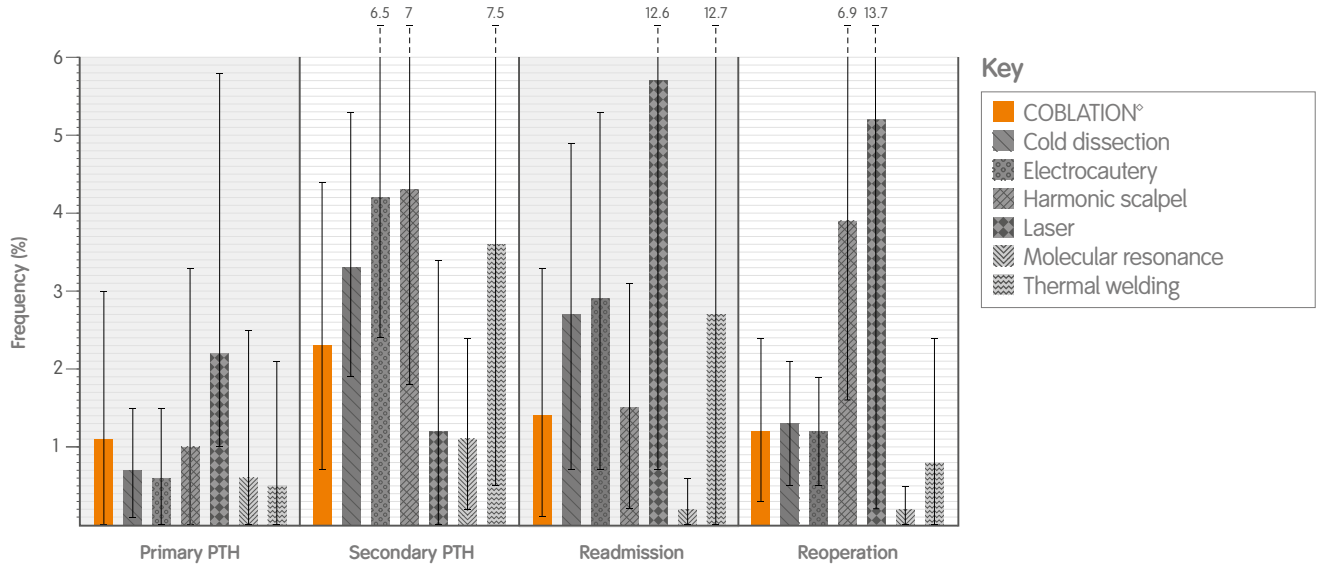
Key results

Meta-analysis

Total tonsillectomy [Figure 1]

- Frequency of primary and secondary PTH were <3% and <5% respectively, regardless of technique
- Electrocautery and harmonic scalpel were associated with a higher frequency of secondary PTH
- Laser tonsillectomy was associated with the highest estimated risk of revisit/readmission and reoperation

Figure 1: Frequency of PTH and PTH-associated readmission or reoperation by technique following total tonsillectomy



Error bars show 95% Bayesian credible interval, as reported in original manuscript

† Francis DO, Fonnesbeck C, Sathe N, McPheeterers M, Krishnaswami S, Chinnadurai S. Postoperative bleeding and associated utilization following tonsillectomy in children: A systematic review and meta-analysis. *Otolaryngol Head Neck Surg*. 2017;156:442-455

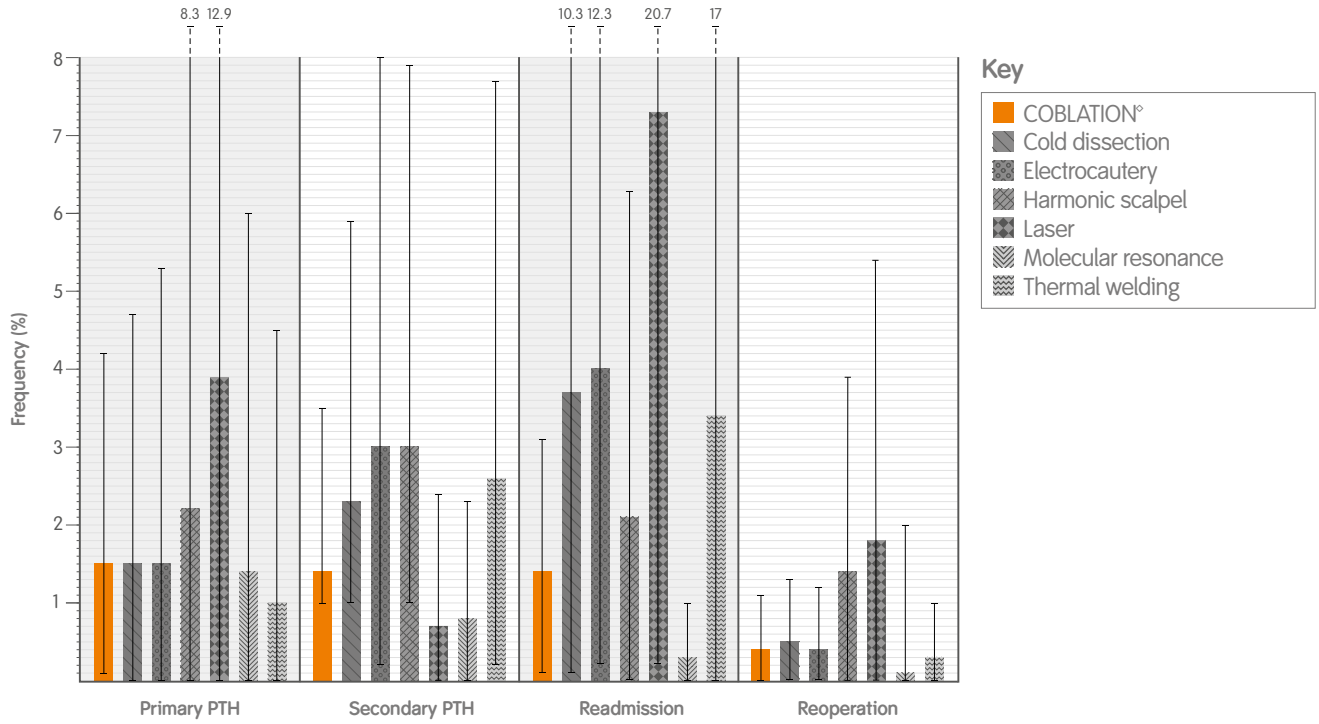
* PTH defined as any report of post tonsillectomy bleeding, including the entire of range of bleeding from bloody sputum to frank bleeding requiring readmission or reoperation

Key results

Partial tonsillectomy [Figure 2]

- Frequency of primary and secondary PTH were <4% and ≤3% respectively, regardless of technique
- Findings on revisits/readmissions and reoperations were limited, making accurate predictions difficult

Figure 2: Frequency of PTH and PTH-associated readmission or reoperation by technique following partial tonsillectomy



Error bars show 95% Bayesian credible interval, as reported in original manuscript

PTH by indication

Lower rates of PTH seen with obstructive disease (1.9%) when compared with recurrent infection (3.9%) across all techniques and types of tonsillectomy (partial or total)

Conclusion

- **Pooled rates of PTH occurred in approximately ≤4% of tonsillectomies with similar rates among commonly used techniques**
  - **COBLATION, 3.3%; cold dissection, 3.8%; electrocautery, 4.9%**
- **Higher pooled rates were associated with total vs partial tonsillectomy (4.2% and 1.5% respectively)**
- **The frequency of revisits/readmissions or reoperations to control hemostasis was generally <5%**

Considerations

- Varying PTH rates reported by the comparative studies, case series and databases included in this study may reflect differences in their population sizes and design. Prospectively conducted comparative studies may more accurately capture PTH episodes and represent the strongest evidence from which the study conclusions were drawn
- Whilst there is a recognised lack of consistency in reporting on postoperative bleeding, severity of bleeding and associated healthcare utilization following tonsillectomy in children, the methodology used in this study sought to provide the most accurate estimates based on the state of the literature on this topic
- The key results detailed in this summary represent those from the meta-analysis

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