

Abstract

Methods: A prospective, single blinded, observational study conducted at a children's hospital by 7 attending surgeons. 346 Eligible patients from age 3-17 years undergoing tonsillectomy by TWF, CA, or MEC over a 4-year period excluding those with craniofacial dysmorphism, peritonsillar abscess, bleeding disorders, neurologic or syndromic diagnoses, obesity and severe obstructive sleep apnea. Primary outcomes analyzed daily pain levels, analgesic doses, diet and morbidity events.

Results: Average pain levels on the day of surgery were significantly lower in CA (Max=2.7, Avg=2.0) compared to MEC (Max=3.4, Avg=2.7) and TWF (Max=3.5, Avg=2.7) (Max p=0.003, Avg p=0.001). CA maintained lower levels of maximum and average pain through postoperative day (POD) 5 after which TWF trended lowest. Total pain management with analgesics was lowest in TWF patients after POD 2. Post-operative bleed rate (B) was 9.3% for all subjects. Return to ER for bleeding (ER) was 6.9% and surgery (OR) was 2.6%. TWF had lower rates (B=4.6%, ER=3.7%, OR=0%) compared to CA (B=11.6%, ER=8%, OR=2.7%) and MEC (B=11.1%, ER=7.9%, OR 4.8%) (B p=0.149, ER p=0.288, OR p=0.077). TWF also had the lowest rates for reported poor po intake or dehydration (p=0.077).

Results

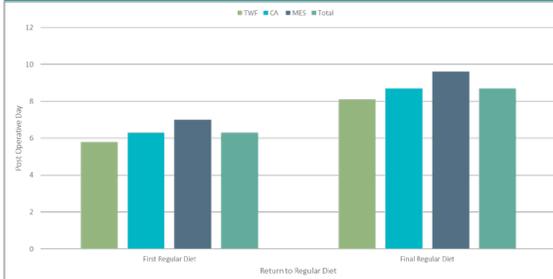


Chart 3. Return to Regular Diet: Initial and Final Post Operative Day

Conclusions

- CA had the lowest pain levels through postoperative day 6, wherein TWF evidenced lower pain levels.
- TWF had the lowest rates of dehydration and earliest return to regular diet
- Pediatric patients who underwent CA or MES were more likely to have a postoperative bleed or return to the operating room.
- TWF shows some advantages compared to CA and MES. Future studies with a larger sample size would serve to further elucidate these outcomes in the pediatric population.

Results

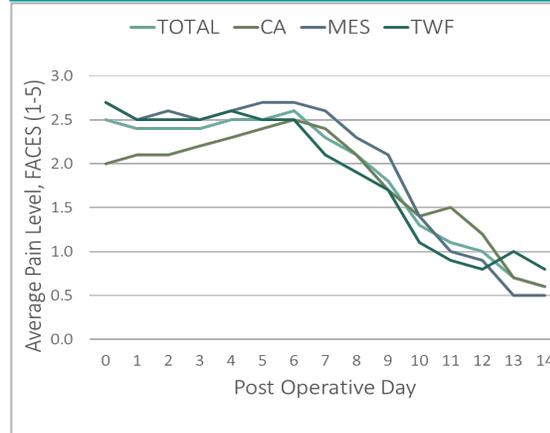


Chart 1. Average pain levels (FACES scale) on post-operative days 1-14

Results

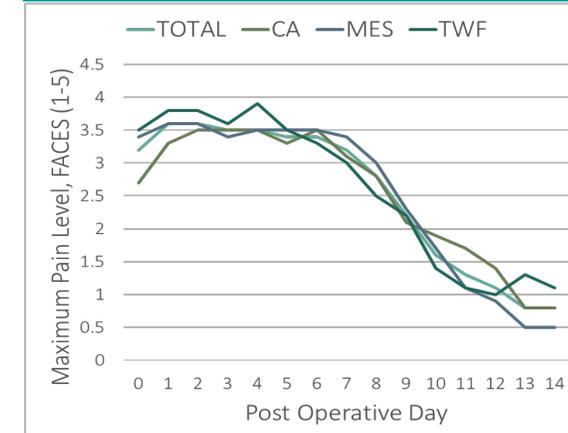


Chart 2. Maximum pain levels (FACES scale) on post-operative days 1-14

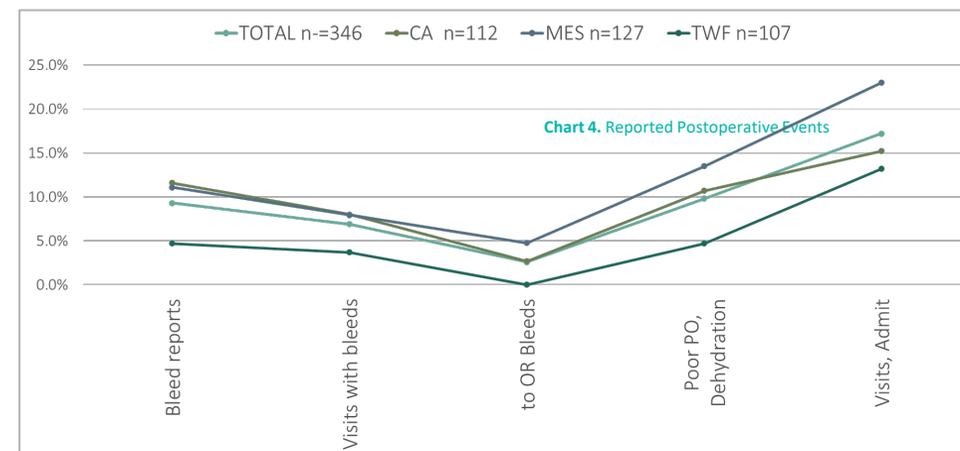


Chart 4. Baseline Data for Cohort Pediatric Tonsillectomy Patients, N=369

References

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Large study comparing 3 different instruments used for tonsillectomy in children

CA had lowest early pain levels up to POD6

TWF showed lowest pain scores after POD6

Patients who had CA or MES were **more likely** to have a **postop bleed** requiring a **return to the OR**, suggesting **improved ability to seal vessels** with TWF

TWF's lowest dehydration rate and earliest return to regular diet may lead to earlier wound healing resulting in better quality of life earlier in the postoperative course

Further study with a larger patient population is needed to detail other differences between the instruments

Conclusions