Oral morphine as a TTO post adenotonsillectomy?

Existing evidence suggests that a combination of regular paracetamol and ibuprofen after tonsillectomy provides adequate postoperative analgesia to most patients after tonsillectomy. Oral morphine as rescue analgesia may confer some additional benefits but can increase respiratory complications in patients with sleep disordered breathing and may best be avoided for administration at home in this population.

Following a review of recent evidence presented below, no absolute recommendations can be made based on the existing evidence.

1. Kelly LE, Sommer DD, Ramakrishna J, et al. Morphine or Ibuprofen for post-tonsillectomy analgesia: a randomized trial. Pediatrics. 2015;135(2):307-13.

   Out of 91 patients with sleep disordered breathing, 86% did not show improvement in nocturnal desaturations in the morphine group (paracetamol, PRN oral morphine), whereas 68% of ibuprofen patients (paracetamol, PRN ibuprofen) did show improvement (14% vs 68%; P < .01). The number of desaturation events increased substantially in the morphine group. There were no differences seen in analgesic effectiveness, tonsillar bleeding, or adverse drug reactions. The trial was stopped early. Post-tonsillectomy morphine use should be limited, as it may be unsafe in certain children.

2. Oremule B, Johnson M, Sanderson L, Lutz J, Dodd J, Hans P. Oral morphine for pain management in paediatric patients after tonsillectomy and adenotonsillectomy. Int J Pediatr Otorhinolaryngol. 2015;79(12):2166-9.

   A 2 cycle prospective audit was conducted with telephone consultations with parents of 74 children (1-16 years age) undergoing tonsillectomy +/- adenotonsillectomy. 24 consecutive patients in Cycle 1 (C1, para+ ibu without morphine) and 50 in cycle 2 (C2, para+ ibu with PRN morphine) were included. Parents felt simple analgesia was not effective enough in both cycles. **CONCLUSIONS:** Postoperative PRN oral morphine in addition to regular paracetamol and ibuprofen, did not significantly alter initial pain profile, worst pain scores or rate of health service contact when compared to regular paracetamol and ibuprofen alone.

3. Syed MI, Magos TA, Singh J, Montague ML. A new analgesia regimen after (adeno) tonsillectomy in children: a pilot study. Clin Otolaryngol. 2016;41(6):660-665.

   Prospective pilot study. A total of 176 children undergoing (adeno) tonsillectomy over a 5-month period were included. Patients were discharged on regular paracetamol and ibuprofen for 7 days and three doses of oral morphine for days 3, 4 and 5. The pain scores were significantly better in children who were compliant with morphine than those who were not and that they were less likely to seek help out of hours. One should bear in mind that parental concerns and adverse effects of the drug were seen in a minority of patients and anaesthetists were reluctant to prescribe the drug in cases of severe OSA or associated central apnoeas.

4. Wei chern gan R, Kamani T, Daniel M. Analgesia following adenotonsillar surgery in children: is Oramorph required in addition to paracetamol and ibuprofen? Eur Ann Otorhinolaryngol Head Neck Dis. 2017;134(1):23-25.

   A retrospective audit. Following (adeno)tonsillectomy, parents were telephoned and asked whether they used Oramorph. Of 56 children studied, 41 (73.2%) were given Oramorph. In the 15 (26.8%) that were not, this was because parents felt it was not required in 14 children, and in 1 case, it was due to worries about side-effects. Overall, 14 carers (25.0%) expressed concerns about Oramorph use, mostly over possible side effects. **CONCLUSIONS:** Prescribing Oramorph as required, in addition to regular paracetamol and ibuprofen, is appropriate following adenotonsillar surgery.

5. Liu C, Ulualp SO. Outcomes of an Alternating Ibuprofen and Acetaminophen Regimen for Pain Relief After Tonsillectomy in Children. Ann Otol Rhinol Laryngol. 2015;124(10):777-81.

   Retrospective review of medical records of 583 patients (age 1-18 years) having tonsillectomy +/- other procedures and who received alternating doses of acetaminophen and ibuprofen every 3 hours unless they were asleep during the first 3 postoperative days and on an as required basis after that. 56 (9.6%) reported inadequate pain control and were given hydrocodone. 24 patients (4.1%) had postoperative bleeding. Nine patients (1.5%) required surgical intervention for bleeding. **CONCLUSIONS:** Alternating doses of ibuprofen and acetaminophen provided an effective treatment for post-tonsillectomy pain in the majority of children and did not increase rate of bleeding.

6. Constant I, Ayari khalfallah S, Brunaud A, et al. How to replace codeine after tonsillectomy in children under 12 years of age? Guidelines of the French Oto-Rhino-Laryngology--Head and Neck Surgery Society (SFORL). Eur Ann Otorhinolaryngol Head Neck Dis. 2014;131(4):233-8.

   The authors present the guidelines of the French Oto-rhino-laryngology--Head and Neck Surgery Society (SFORL) regarding pain management in children and adults following tonsillectomy. **CONCLUSIONS**: At home, paracetamol + ibuprofen is recommended in cases with elevated respiratory risk and paracetamol + tramadol in cases of elevated bleeding risk. Risks of oral morphine overall were considered higher than benefits offered especially in cases of OSAS.

7. Lauder G, Emmott A. Confronting the challenges of effective pain management in children following tonsillectomy. Int J Pediatr Otorhinolaryngol. 2014;78(11):1813-27.

   CONCLUSIONS: Evidence to date would suggest that an analgesic regime of regular acetaminophen and ibuprofen following tonsillectomy in children is safe and does not increase the likeness of post-operative bleeding. Careful selection, with exclusion of children with relevant comorbidities, may allow for the future safe and effective use of opioids as rescue analgesia. The unpredictable plasma concentration after oral administration, narrow therapeutic index, pharmacogenetic variability in metabolism and accumulation of M6G with repeat doses would imply that oral morphine is not the ideal agent to replace codeine for discharge medication until more research data is available.

Dr Prakash Krishnan, ST7 Central School of Anaesthesia (drpk.nhs@gmail.com)
Dr Mary Lane, Consultant Anaesthetist Royal Brompton Hospital (m.lane@rbht.nhs.uk)