

Analgesic Effects of Gabapentin and Diclofenac on Post-Operative Pain in Patients Undergoing Tonsillectomy

Sermin Oztekin¹; Seden Duru^{1,*}

¹Department of Anesthesiology and Reanimation, Faculty of Medicine, Dokuz Eylul University, Izmir, Turkey

*Corresponding author: Seden Duru, Department of Anesthesiology and Reanimation, Faculty of Medicine, Dokuz Eylul University, Izmir, Turkey, Tel: +90-5072341930, E-mail: seden-duru@yahoo.com

Received: June 22, 2013; Revised: July 31, 2013; Accepted: September 25, 2013

Keywords: Pain; Gabapentin; Diclofenac; Tonsillectomy

Dear Editor,

We studied the article by Yeganeh Mogadam et al. (1) with great interest, "comparison of analgesic effect between gabapentin and diclofenac on Post-Operative Pain in Patients Undergoing Tonsillectomy". The authors had demonstrated that administration of preoperative gabapentin and diclofenac significantly reduced postoperative pain, and the amount of opioid consumption. Although the article was of clinical relevance, we feel that there are some points to be clarified. The pain following tonsillectomy is a severe pain lasting up to 11 days post-operatively that can be due to different reasons (2). Therefore, a rational approach to treat post-tonsillectomy pain is to combine different treatment modalities, and act against different pain mechanisms in order to improve analgesia, and potentially reduce side-effects and complications. Therefore, a multimodal approach including preemptive diclofenac and postoperative morphine for children undergoing tonsillectomy with remifentanyl-propofol anesthesia was employed in our study (3). Some studies (4, 5) reported that gabapentin effectively reduces postoperative pain, opioid consumption, and opioid-related adverse effects after surgery similar to that of Mogadam et al. (1). On the other hand, gabapentin induced more dizziness, gait disturbance and vomiting than placebo after tonsillectomy in adults who received propofol-based anesthesia. Also, it was reported that the benefits of the reduced opioid intake may be overshadowed by the drawbacks of the side-effects of gabapentin (6). Turan et al. (7) investigated post-operative pain after a single dose of gabapentin 1200 mg in rhinoplasty or endoscopic sinus surgery, and reported diminished pain but dizziness was a significant side effect that potentially limited the use of gabapentin. In our opinion, the side effects such as vomiting or retching adversely affect the

comfort of the patient and may provoke haemorrhage from the surgical area. Hence, it is important to choose the anesthesia methods to prevent vomiting after tonsillectomy because of the risk of haemorrhage (3). We used propofol-based anesthesia for children undergoing tonsillectomy. Although morphine consumption was high in some patients, none of them experienced vomiting in the PACU in our study. This finding could have resulted from the antiemetic effect of propofol in the early postoperative period. In the study by Yeganeh Mogadam et al. (1) the patients received alfentanil as opioid, and anesthesia was maintained using N₂O and isoflurane. The results of this study showed no significant difference between groups for vomiting which may be due to the suctioning of the patients' stomach by a G-tube at the end of the surgery. Also, in that study the patients aged 10 to 25 years. Thus, the children and adults were mixed in the same group. In our opinion, if the study is recreated according to the age groups as children or adults, it may yield more specific results. Gabapentin may be a new class of medication which can be used in postoperative pain, but further trials are needed to delineate the optimal dose, timing and duration of GBP use following surgery, and the adverse effects of gabapentin such as sedation and nausea-vomiting; however so far the results are promising.

Authors' Contributions

Sermin Oztekin, MD: this author helped in conducting the manuscript; Seden Duru: this author helped in writing the manuscript.

References

1. Yeganeh Mogadam A, Fazel MR, Parviz S. Comparison of analgesic effect between gabapentin and diclofenac on post-operative

- pain in patients undergoing tonsillectomy. *Arch Trauma Res.* 2012;**1**(3):108-11.
2. Dahl JB, Mathiesen O, Moiniche S. 'Protective premedication': an option with gabapentin and related drugs? A review of gabapentin and pregabalin in the treatment of post-operative pain. *Acta Anaesthesiol Scand.* 2004;**48**(9):1130-6.
 3. Oztekin S, Hepaguslar H, Kar AA, Ozzeybek D, Artikaslan O, Elar Z. Preemptive diclofenac reduces morphine use after remifentanyl-based anaesthesia for tonsillectomy. *Paediatr Anaesth.* 2002;**12**(8):694-9.
 4. Tiippana EM, Hamunen K, Kontinen VK, Kalso E. Do surgical patients benefit from perioperative gabapentin/pregabalin? A systematic review of efficacy and safety. *Anesth Analg.* 2007;**104**(6):1545-56.
 5. Clarke H, Pereira S, Kennedy D, Gilron I, Katz J, Gollish J, et al. Gabapentin decreases morphine consumption and improves functional recovery following total knee arthroplasty. *Pain Res Manag.* 2009;**14**(3):217-22.
 6. Mikkelsen S, Hilsted KL, Andersen PJ, Hjortso NC, Enggaard TP, Jorgensen DG, et al. The effect of gabapentin on post-operative pain following tonsillectomy in adults. *Acta Anaesthesiol Scand.* 2006;**50**(7):809-15.
 7. Turan A, White PF, Karamanlioglu B, Memis D, Tasdogan M, Pamukcu Z, et al. Gabapentin: an alternative to the cyclooxygenase-2 inhibitors for perioperative pain management. *Anesth Analg.* 2006;**102**(1):175-81.