

## Peer Review File

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### **Reviewer A**

#### Comment 1:

The authors introduced the multimodal analgesia applied to their surgical cases. In the former part, the authors emphasized the importance of post-operative analgesia for orthognathic surgery to achieve a favorable prognosis. Combination with nerve block and various analgesics, not depending on opioid, provides balanced analgesia without unfavorable effect would be desirable, the authors said. They use five drugs intraoperatively, and five drugs for postoperative analgesia. This reviewer does not agree their prescription because there is no explanation why so many drugs are necessary, Postoperative analgesia should be individually titrated. No unnecessary drug should be used.

#### Replay 1:

Orthognathic surgery is a surgical technique for modeling the face. It is a potentially painful procedure for the patient throughout the perioperative period (see Ref 1). More specifically, pain control in the postoperative period is a challenge for the anesthesiologist considering that the airway of the patient with an intermaxillary fixation is compromised and the high incidence of nausea and vomiting at this point (see Ref 5).

For all these reasons, patients benefit from a multimodal approach to pain. By this we mean that pain is managed in multiple ways, with drugs with different mechanisms and action times, and reducing the need for the administration of morphine drugs that can compromise breathing and increase PONV (see Ref 7).

Specifically, the protocol that we expose only contemplates 3 drugs for postoperative pain control (methadone, paracetamol and non-steroidal anti-inflammatory in the form of dexketoprofen if renal function is correct or metamizol if renal function is compromised) and we also present satisfactory results applying multimodal analgesia in other fields of anesthesia and maxillofacial surgery (see Ref 8,9).

#### Changes in the text 1:

We added some updated references that highlight the advantages of multimodal analgesia with the use of local anesthetics, not only for pain control, but also to improve perioperative hemodynamic conditions.

(See page 5, line 142, reference 6)

## **Reviewer B**

Comment 2:

The concept of multimodal analgesia is critical in the management of jaw deformity surgery. This letter as submitted deserves to be published.

The oral cavity and face are the few sites where local anesthetics can be administered directly, and local anesthesia is still important for multimodal analgesia. Please share with us the usefulness of local anesthetics.

Replay 2:

The introduction of locoregional nerve blocks in the last three decades has represented a great step forwards for anesthetists in the management and control of perioperative pain. The expansion in the use of locoregional nerve blocks has been evidenced in both the upper and lower extremities and in the trunk and abdomen. In contrast, no such revolution has been observed in either superficial or deep facial blocks. These procedures have been limited to surgeons or anesthesiologists working in the field of chronic pain, due to the complexity and presence of vulnerable structures in the maxillofacial zone.

The control of perioperative pain is crucial for increased patient satisfaction, improved recovery and a shorter hospital stay. The current clinical guides recommend the multimodal management of perioperative pain, and this includes the use of peripheral nerve blocks, in addition to classical general anesthesia and infiltration of the surgical field. Multimodal approach for perioperative pain control is a fact, and the use of local and regional anaesthesia is mandatory.

Changes in the text 2:

We added some updated references that highlight the advantages of multimodal analgesia with the use of local anesthetics, not only for pain control, but also to improve perioperative hemodynamic conditions.

(See page 5, line 142, reference 6)

## **Reviewer C**

Comment 3:

I agree with your opinion of multi-modal analgesia for pain control after orthognathic surgery.

Replay 3:

It is an honor that they recognize our work well done.

Changes to the text 3:

No changes needed