

# Infiltration with lidocaine 2%, dexmedetomidine + levobupivacaine 5% for post tonsillectomy analgesia

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**Sabina ER Ferrer, Campillo M, García N**  
President of Regional Anesthesia and Pain Venezuela Ultrasound Society of Anesthesiology, Venezuela

**Correspondence:** Sabina Elisa Romero Ferrer, President of Regional Anesthesia and Pain Venezuela Ultrasound Society of Anesthesiology, Venezuela, Tel 584142910791, Email sabiromero@hotmail.com

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## Introduction

The swelling of the Pharynx and tonsils is one of the most frequent reasons of consulting in the ORL sphere. They can be acute or chronic, defining the latter as the presence of 5 infectious episodes in a year. The diagnosis is clinical, the most frequent etiology is viral (adenovirus and rinovirus),<sup>1</sup> only a 10-30% is bacterial, specifically Type A Beta Hemolytic streptococci Beta (EBHGA).<sup>2</sup>

Generally it can be said that the indications to explain tonsil extirpation<sup>3</sup> and adenoids include the obstruction degree and interference that these structures produce in the normal physiological functions of the pharynx, Eustachian Tube or Posterior Nasal Apertures. The infiltration of pre-surgical local anesthetics has come to be a highly popular adjuvant in General Anesthesia, in the ambulatory environment. The use of local anesthetics facilitates recovery giving intra and post-operative analgesia. It contributes to a reduction of the consumptions of analgesics and an earlier return to the functional state. The alpha adrenergics produce analgesia due to their effect in the receptors of the dorsal horn in the spinal cord. The main objective of this study is to prove the analgesic efficacy of the infiltration of local anesthetics joined to the alpha agonists 2 adrenergics in patients undergoing tonsillectomy.

## Materials and methods

It's a clinical study, prospective and controlled, where I include a total of 50 patients of both sexes, ASA I, ages between 2 and 8 years, with indications of tonsillectomy surgical intervention, between March 2006 and March 2007. Under standard ASA Monitoring, a Premeditation with Midazolam, Metoclopramide and Ranitidine was carried out, the anesthetic induction was carried out with Propofol (2-3mg/kg), and Esmeron (0,3mg/kg) the maintenance anesthetics was carried out with Isoflurane (1,5%), Oxygen (3lts/min). We proceeded to the realization of the surgical procedure of Tonsillectomy, and after concluding it and before to the reversal of the anesthesia, an infiltration of the analgesic mixture with Lidocaine at 2% (1mg/kg), Levobupivacaine (5mg) and Dexmedetomidine (0.3mg/kg) was carried out at approximately 2cm above the upper pole where the tonsil was at, previous aspiration with a 23x1 1/2 inches needle, said infiltration was done bilaterally. Evaluation in the Post-Anesthetic Care Unit during the first 2 hours, the EVA, sedation scale using the RAMSAY scale, consumption of analgesics, Hemodynamical variables. The evaluation was continued during the first 24 hours. Likewise the satisfaction scale of the patient was evaluated when discharged (Figure 1).

## Results

Regarding the hemodynamical variables of the cardiac frequency,

respiratory frequency, arterial tension, there was no significant statistical difference. The sedation level according to the RAMSAY scale, there was no statistical difference, neither where complications presented or adverse effects. Regarding the request of post-operative analgesic, the reduction was statistically significant. The EVA was always lower than 2 points, at the first 6 hours cold fluid intake began, there was no complaints of pain. The satisfaction scale that was measured since the first 6 hours reported that there was high acceptance from both patients and mothers (Figure 2).

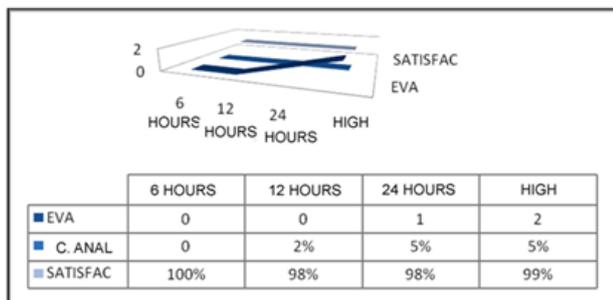


**Figure 1** The satisfaction scale of the patient was evaluated when discharged.

## Discussion

The reduction of pain is justified since there are works in existence that prove the analgesic efficacy of local anesthetics,<sup>4</sup> however here we propose the use of local anesthetics+adrenergics 2 alpha agonists,<sup>5</sup> and their post-surgical placement, infiltrating the zone close to the one submitted to surgery. Generally the post-operative anesthesia in patients submitted to tonsillectomies is carried out under intravenous or suppository according to the case, giving good results. The infiltration of local anesthetics blocks the transmission of the painful impulse.<sup>6-8</sup> The surgical procedure of tonsillectomy is very cruel in

most cases and its post-operative pain especially in the first 24 hours is of great intensity. The use of post-operative analgesics is the routine technique carried out for post-operative analgesia (Figure 3).



**Figure 2** The satisfaction scale that was measured since the first 6 hours reported that there was high acceptance from both patients and mothers.



**Figure 3** The use of post-operative analgesics is the routine technique carried out for post-operative analgesia.

## Conclusion

The results obtained in this study prove the analgesic efficacy of the infiltration of Lidocaine at 2%, Levobupivacaine at 5% and Dexmedetomidine, after the realization of the tonsillectomy. We

recommend the use of a mixture of local analgesics mixed with alpha-2 adrenergic. In patients that will be submitted to surgical procedure in ORL. We suggest the realization of future research and therapeutic works to be used in this type of surgery.

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## Conflicts of interest

The authors declare that there are no conflicts of interest.

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