**Abstract**

**Methods and Materials**

This study was approved by the FMDUL (University of Lisbon, School of Dentistry) ethical committee. Informed consent was signed by all patients included in this study. A comparison study was performed between two homogeneous groups, with an experimental group (sub-periosteal anesthesia) and a control group (loco-regional anesthesia).

In the control group, first a 1.8ml cartridge Articaine hydrochloride with 4% with epinephrine at 1:100,000 (Inbisa Laboratories, Spain) was administered. Then another cartridge of anesthesia was administered buccally to the area of implant placement. In the test group, one and a half cartridges of 1.8ml cartridge Articaine hydrochloride with 4% with epinephrine at 1:100,000 was administered buccally to the area of implant placement and half of a cartridge was administered lingually.

During surgery, in both groups and if needed, an anesthetic reinforcement was provided using the technique that the surgeon felt most appropriate independent of the study group.

All the data regarding reinforcement of anesthesia were recorded. The level of pain during anesthesia, during surgery and after surgery was quantified using a Visual Analog Scale for Pain Perception (VAS) and using the following questions:

- Question 1 - Mark the amount of pain you feel right now (after surgery).
- Question 2 - Check the amount of pain you felt when being anesthetized.
- Question 3 - Check the amount of what you felt during the intervention.
- Question 4 - Mark the amount of pain you feel right now (after surgery).

Other data like time of surgery and age of the patient were also recorded.

**Results**

The preliminary results of this study suggest that when comparing loco-regional anesthesia versus subperiosteal anesthesia for implant placement in the posterior mandible there is no difference between both groups. However, amount of anesthetic, the amount of vasoconstrictor and the number of cartridges showed significant differences. These preliminary results should be analyzed with caution.

**Conclusion**

**References**

- Vasoconstrictor number and the questions of the survey. p <0.05 was considered significant.

**Background and Aim**

In the literature two basic types of anesthetic technique are described: loco-regional anesthesia and subperiosteal anesthesia (Donohue 1993). The technique of anesthesia varies with some schools and the literature. Some advocate the use of loco-regional anesthesia and others advocate the use of only infiltrative (buccal and lingual) anesthesia.

Many authors state that loco-regional anesthesia is superior to all others. Others state that with the evolution of articaine, subperiosteal injection is sufficient for implant placement (Stabile 2000). Articaine has high penetration rate and tissue diffusion due to the presence of the thiophene ring, which gives it a greater liposolubility. Its plasma binding is 60% to 80% (Barlett, 2016), similar to other anesthetics of the amide group.

The absence of a clinical recommendation on the type of anesthesia appropriate to the type of intervention motivates the accomplishment of this study.

**Aim**

The aim of this ongoing double blinded randomized clinical trial is to compare efficiency and morbidity of the loco-regional with sub-periosteal anesthetic technique, for implant placement in the posterior mandible.

**Mandibular Sub periosteal vs Loco-regional anesthes ia for implant placement - preliminary report from randomized clinical control trial**

Miguel Cavaco Pereira - Student at Postgraduate program in Oral Surgery, University of Lisbon Faculty of Dental Medicine

Antonio Cabo - Student at Postgraduate program in Oral Surgery, University of Lisbon Faculty of Dental Medicine

André Chen – Invited Assistant at the Postgraduate program in Oral Surgery and Implantology, University of Lisbon Faculty of Dental Medicine

João Canta – Invited Assistant at the Postgraduate program in Oral Surgery and Implantology, University of Lisbon Faculty of Dental Medicine

Helena Francisco - Assistant Professor at the Postgraduate program in Oral Surgery and Implantology, University of Lisbon Faculty of Dental Medicine

João Caramês - Full Professor and Chair of Postgraduate program in Oral Surgery and Implantology, University of Lisbon Faculty of Dental Medicine