

MORPHO-PATHOLOGICAL ASPECTS IN ACCIDENTS CAUSED BY LOCAL ANESTHESIA WITH VASOCONSTRICTORS

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Abstract. Post extractionally wound healing involves a primary mechanism for the recovery of tissue integrity after damage; is a complex process regulated by many local factors and general, and knowledge and understanding of this process at the molecular level, biochemical and tissue allows dentists and oral and maxillo-facial surgeon adoption of a suitable transmission techniques for therapeutic success. Dry alveolitis caused by local adrenaline prolonged ischemia is the most dramatic – by the discomfort created for the patient, accident of local anesthesia with vasoconstrictor used in the therapy of dento-alveolar surgery.

INTRODUCTION

Post extractionally wound healing involves a primary mechanism of recovery of tissue integrity after damage, is a complex process regulated by many local factors and general, and knowledge and understanding of this process at the molecular level, biochemical and tissue allows dentists and oral and maxillo-facial surgeon adoption of a suitable transmission techniques for therapeutic success. Although the therapeutic arsenal of techniques exist to reduce and cancel the pain since analgesics, loco-regional anesthesia, excitement and anxiety, fears persist in patients to undergo dental care. Today very few surgical manoeuvres, particularly dental surgery runs without loco-regional analgesia or general. As they have discovered new techniques and management systems, dental practitioners have been given the chance to have handy new anesthetic methods and substances of teeth and soft parts.

Anesthesia today allows adapting the methods and techniques individualized for each patient so that patient to receive a perfect anesthesia and with as little risk using substances as close to "ideal anesthetic". (5)

Considerable progress in recent decades in anesthesiology have been possible due to research and pharmacological, patho-physiological and clinical, which allowed the discovery of new substances with good individual actions, with high efficiency and low toxicity and a more accurate indication as to prevent and deal effectively with general and local accidents. (4,6)

Dry socket caused by local adrenaline prolonged ischemia may be the most dramatic - created by patient discomfort, local anesthesia with vasoconstrictor accident. (1,2,6)

Anesthetic solutions with or without epinephrine or another vasoconstrictor, currently used for loco-regional anesthesia, can significantly impact the level of alveolar filling with blood, immediately post extractionally. (3)

MATERIAL AND METHODS

Many authors have suggested the involvement of loco-regional anesthesia in dry socket . They believe that the anesthetic solution with or without epinephrine or another vasoconstrictor, currently used for loco-regional anesthesia, significantly influence the alveolar filling with blood, immediately post extractionally.

Our research attempted to link the type of anesthetic solution used in loco-regional anesthesia for tooth extraction employed that we practiced our patients and the incidence of dry socket morpho pathological issues detected and custom designed post extractionally wound healing.

Human material used in this study consisted of 24,865 patients treated in the period 2005-2007 refer to the Department of Oral and maxillo-facial surgery - ambulatory, Iasi to 10,478 patients have been practiced tooth extraction (42.14%) all made with loco-regional anesthesia.

The group of 10,478 patients that we've practiced tooth extraction, 8002 patients (77.47%) have accused postoperative complications, the remaining 23, 63% (2476 patients) statistical analysis we found post extractionally complications.

Anesthetic solutions used in these 2476 patients who were described complications post extractionally

- XILINĂ 2% simple
- XILINĂ with ADRENALINE

Distribution of this group of patients who have installed post extractionally complications compared with anesthetic solution used was as follows:

- In 68.82% of 1703 patients we performed tooth extraction with loco-regional anesthesia with 2% with adrenaline xiline

- In 31.18% of 773 patients we performed tooth extraction with loco-regional anesthesia with 2% without adrenaline xiline

Of the total of 2476 patients with complications post extractionally installed a number of 57 patients (2.3%) showed dry socket :

- dry socket : 57 patients (2.3%)
- lasting anesthesia: 15 patients (0.6%)
- infection of soft parts: 27 patients (1.09%)
- post extractionally bleeding: 43 patients (1.73%)
- Lockjaw: 187 patients (7.55%)
- postoperative discomfort (swelling and postoperative pain): 2147 patients (86.41%)

Across the 57 patients we found installation dry socket dental units which had been retrieved following location:

- jaw 9 teeth (15.78%)
- mandible 48 teeth (84.21%)

RESULTS AND DISCUSSION

Research undertaken by us has sought to establish a series of correlations, opposite pathological anatomical aspects revealed in what the healing of wounds resulting from tooth extraction effected with loco regional anesthesia with vasoconstrictor . Our study focused on assessing the morphological aspects of healing, given that extraction was followed by installation dry socket.

Further seemed relevant to determine the incidence dry socket against the type of anesthesia used, this time "target" level of 57 patients who have installed dry socket :

- At 82.69%, 47 tooth extraction of patients we have performed with loco-regional anesthesia with 2% with adrenaline xiline
- At 18.31%, 10 tooth extraction of patients we have performed with loco-regional anesthesia with 2% without adrenaline xiline

As noted, a fact certified by the fact that the mandible prevailed extraction operator panel, we preferred anesthetic solution resulting from the combination Xiline 2% + Xiline with adrenaline. Vasoconstrictor index reporting our findings we can say with certainty that adrenaline is a risk factor in installing dry socket or the risk that a patient may install dry socket is directly proportional to the presence of vasoconstrictor the anesthetic solution.

In dry alveolitis ("Dry Socket"), are found in the alveolus of a mummified tissue, which is actually act as a foreign body which has no possibility of regeneration, which requires its removal to ensure the regeneration process .

Ischemic abiotrophic alveolar osteitis characterized by processes of ischemia installed because vasoconstriction epinephrine, dystrophic alterations that result is going to necrobiosis, with a low or no inflammatory process.

Pain appears instantly at establish contact between the probe and alveolar walls. If not interfere with treatment, dry socket may take a month or more, then resolve spontaneously or unfortunately complications can occur. If not involved, the process of necrotic osteitis include increasing portions of bone, passing the stage of osteoperiostitis and osteomyelitis, complications that can superadd various perimaxillary or perimandibular infections. They are accompanied by adeno flegmon and sepsis.

Anatomic-pathologic examination in alveolar osteitis reveals a number of morphological aspects that allow the application of adequate treatment, leading to a positive development of the healing

process.

At 3 days after dental extraction:

- presence of red blood cells, the existence of granulation tissue being set up, with reactive macrophages (Fig. 1).

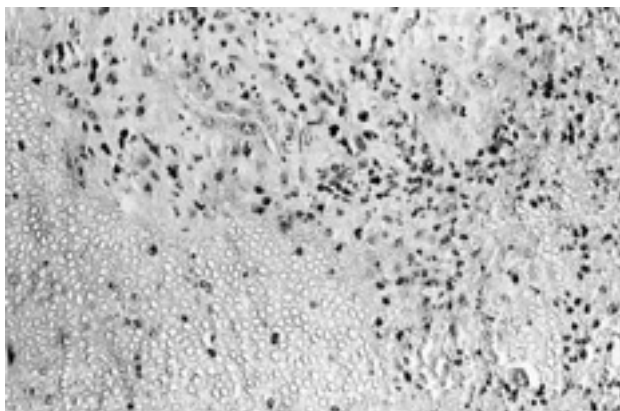


Fig. 1 (HE X 20) (author cases)

At 5 days after dental extraction:

- evolves to stage chronic inflammatory infiltrate, erythrocyte quantity is decreasing (Fig.2).
- to install proliferation conjunctiva revealed the presence of fibroblasts and thin collagen fibers (Fig. 3).



Fig. 2. (HE X 10) (author cases)

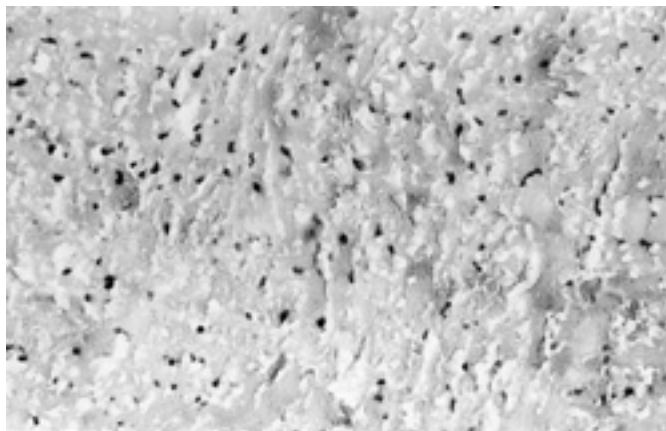


Fig. 3 (HE X 20) (author cases)

In 14 -15 days after dental extraction:

- healing of wound site
- presence of a connective tissue constituted a substantial part fibrillar collagen, fibroblasts (Fig. 4).

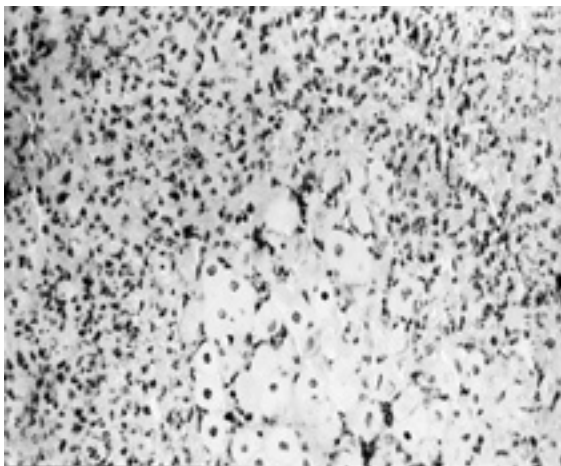


Fig.4 (HE X 20) (author cases)

In 30 days after dental extraction:

- the epithelium, an abundant inflammatory infiltrate of chronic type, ordered by collagen fibers organized in thick bundles.
- slides associated with bone tissue and granulation tissue (Fig. 5).

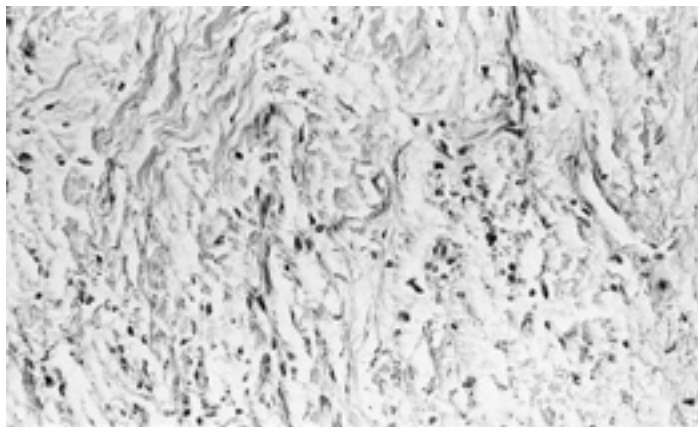


Fig. 5 (HE X 20) (from authors casuistic)

CONCLUSIONS

Vasoconstrictor index reporting our findings we can say with certainty that adrenaline is a risk factor in installing dry alveolitis, the risk that a patient may install alveolitis postextracțională is directly proportional to the presence vasoconstrictorului the anesthetic solution.

Anatomic-pathologic examination in dry socket reveals a number of morphological aspects that allow the application of adequate treatment, leading to a positive development of the healing process.

Dry alveolitis is more difficult to treat because the dominant trophic disorders, bone necrosis is more extensive, lower local reactivity and accompanying pain are of a higher intensity, something which gives a dramatic charge to the patient's postoperative progress.

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