There are multiple practices in dentistry that can cause bleeding. Under normal circumstances, the techniques to be performed can be carried out without major complications. However, patients with hereditary bleeding disorders such as Hemophilia present a potentially greater risk of intra- and postoperative bleeding. Hemophilia is a relatively uncommon disorder, but complex in terms of diagnosis and treatment. Oral and maxillofacial trauma, as well as routine dental care in early childhood, usually manifest the first clinical sign of the disease, such as hemarthrosis. The aim of this guide is to set local guidelines in order to guide health professionals in different dental treatments to achieve an optimal state of oral health in order to reduce dental surgeries, and in the case of having to perform these, establish the correct strategies to reduce the risk of hemorrhage. Uncontrolled dental hemorrhages in time can with time threaten the patient's life. Thus, we assume that people with Hemophilia or other Congenital Hemorrhagic Disorders are a priority group for oral and maxillofacial preventive care [14].

LOCAL ANESTHESIA

The use of local anesthetics in patients with Hemophilia for pain control has been a challenge for both the dentist and the hematologist [38]. Currently, infiltration of different types of anesthetics can be performed locally.

The techniques we can use are the following:

- Infiltrative technique:
  - Terminal: requires slow infiltration
  - Troncular of the Lower jaw: requires the protocol of administration of substitution treatment to avoid bruising and/or hemorrhage.

- Intrapapillary technique: it is only used as a coadjuvant of terminal techniques. Intraligamentous Technique: effective in short treatments [5,6]. Substitution therapy is necessary for the regional technique used to block the inferior alveolar and lingual nerves; in the other techniques, in general, local hemostasis is an important pillar in the surgical treatment of patients with hemophilia. It is a matter of using the most convenient method from all points of view. Low cost, easy instrumentation and application, low infection risk etc. In cases of minor surgery, these hemostatics are sometimes used as the only prophylactic measure, while in medium or major surgeries they are used combined with systemic therapy since to optimize the latter. Local hemostatics are drugs that act locally and participate directly in the coagulation mechanism. They stop the bleeding because they produce an artificial clot or because they create a mechanical matrix that facilitates blood clotting when applied directly to the site of the hemorrhage. Keep in mind that all local maneuvers are effective. Below we will detail the most used, its mechanism of action and its mode of use:

A) Biological tissue adhesives

They are commercial preparations of two components, one is composed of protein concentrates (coagulable proteins, fibrinogen, FXIII, plasminogen) and aprotinin and another with a solution of thrombin and calcium chloride. These two components mix and give rise “in situ” to the transformation of fibrinogen into fibrin, which rapidly transforms into a white elastic coagulum that adheres firmly to the tissues. This fixation that imitates the last phase of normal human coagulation, is what allows the haemostatic, sealing and adhesive activities that characterize the product to develop. During the healing of the wound a total resorption of the biological adhesive takes place. The commercial preparation is provided with a fast-acting thrombin and a slow-acting one. The rapid is used for hemostasis and the slow to adhere to the tissues.

B) Bismuth Subgallate

It is a chemical compound used for several decades by many branches of medicine. It is used in dermatology, gastroenterology and especially in otolaryngology where it is used in tosilectomies [14-16]. It is an intense yellow powder, odorless, insoluble and opaque to the Rx [which allows its visualization in radiographs until its total elimination]. It is recognized for its antibacterial and hemostatic functions. Its hemostatic principles were studied “in vivo” and “in vitro” and are found in the activation of Factor Hageman or FXII, accelerating the precipitating vascular proteins that obliterate the light of the glasses of small caliber. Pharmacies can prepare it easily and it is economic. Its mode of intra-surgical preparation is also very

Dentistry Treatment Guide for Patients with Hemophilia

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Key Words: Hemophilia; Dental hemorrhages; Coagulable proteins

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simple, it consists of making a mixture of bismuth Subgulate with anesthetic liquid with vasoconstrictor until obtaining a mass consistency, and this preparation is compacted into the bleeding surgical bed. From here arises the need for a conservative exodontia of alveolar cavities. It is rapidly eliminated, showing absence of radiological evidence at approximately 30 days.

C) Plasma enriched in platelets

At present the plasma enriched in platelets had a great exit in the field of maxillofacial surgery, especially in reconstructive and regenerative surgeries. The platelet-rich plasma just that, a volume of autologous plasma that has a platelet concentration above the physiological one. The concentration required to be considered is 300% higher than normal. Once obtained by means of special blood centrifugation techniques, the extracorporeal coagulation of the plasma is performed by the application of calcium chloride and thrombin in pre-established concentrations.

This technique should only be performed in specialized medical centers and under strict measures of biosafety and blood control.

Among its advantages it is observed:

a) Provides adhesion and tensile strength for the stabilization of the coagulum.

b) Safety, since it uses autologous plasma.

c) Biologically acceptable for tissues.

d) Contains important healing factors released by platelets.

e) It promotes angiogenesis.

f) It has a high concentration of leukocytes, which reduces the risk of infections.

g) It contains a mesh rich in fibrin, which is osteo-conductive.

D) Fibrillar micro collagen

They are commercial preparations that act as a mechanical matrix to trigger coagulation. Their function is to attract platelets to trigger aggregation when applied directly to the bleeding site.

E) Lyophilized swine skin

Commercial preparation whose high content of collagen allows to mimic the action of micro fibrillar collagen.

F) Oxidized cellulose

It allows the formation of a matrix that stops the deposit of fibrin and the propagation of the blood clot. May slow healing

G) Antifibrinolytic preparations

The antifibrinolytic agents act in molecular form by occupying the sites of plasminogen activation and the plasmin receptor for fibrin. This slows the lysis of the clot and improves its hemostatic properties. The most recognized drugs are aminocaproic acid and tranexamic acid [17-19].

Tranexamic Acid: The use of 10 ml mouthwash. Tranexamic Acid 5%, 4 times a day, for 7 to 10 days, is recommended to prevent post-treatment haemorrhages as well as 25 mg/Kg orally every 6 hours from 5 to 10 days. For children, doses should be adjusted according to age and weight.

Eamino caprico acid (EACA): It can be indicated orally 50-75 mg/kg of weight every 6 hours or as an orientation it is suggested to administer 2 or 3 ampoules orally every 6 hours [20-24].

The post-surgical suture is performed routinely, without exception, since it offers great advantages in hemostasis and postoperative evolution, preventing the consequent edema separating the lips from the wound. In the case of outpatient surgery, the patient must remain at rest for a few minutes before withdrawing once the surgery has been completed, in order to check the definitive hemostasis and explain the corresponding care [25-28]. These instructions differ from those given to a normal patient, since all that is indicated has as main objective the stability of the clot. It is indicated that the temperature of the food to be ingested is natural or cold, neither hot nor warm, since the heat causes dilation vessel and increases the possibilities of bleeding [29-31]. This type of feeding should be followed for approximately six or seven days, with intermediate controls of the wound by the surgeon. The gauze dressing that is placed on the wound to protect it should remain in place between five and seven hours [the time when the clot will probably be stabilized]. Spitting is contraindicated, but the hygiene of the remaining dental pieces is not impeded. The post-surgical controls of these patients should be carried out as many times as possible, to follow their evolution and prevent haemostatic alterations.

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