FEATURES OF THE DENTAL TREATMENT IN PATIENTS WITH HEMOPHILIA

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INTRODUCTION
Haemophilia A is defined as a congenital coagulopathy, or rarely acquired one, which is a decrease in plasma concentration of factor VIII. The value of this factor is normally 60-100%. In hemophiliacs this factor has values of approximately 15-50% in mild disease, as 1-2% in average, and below 1% in severe forms.

Congenital hemophilia would be known as a genetic disorder X linked, transmitted autosomal recessive. Factor VIII gene is located on the long arm of chromosome X. Clinical manifestations, are only present to homozygous (XpY), or in exceptional cases, for example due to incest or consanguinity, at heterozygous (YpXp). Xp is the chromosome that carries the mutant gene. In conclusion the manifestation of this disease is linked to male patients. Mothers of these patients are carriers of the gene and have an obstetrical or gynecological bleeding risk.

Haemophilia patients require special attention because, in severe cases, bleeding may threaten the patient life or may cause chronic motor disabilities. These patients may experience muscular, articular or internal bleeding, usually late after the accident. If it’s an easy or moderate form, this disease does not require supplementation of factor VII, but the dentist should assist in preventing damage to the oral mucosa during these treatments. Therefore:

• Concentration of factor VIII decrease, depending on the type of hemophilia, mild, moderate or severe. It must be said that the factor VIII determination is quite difficult and expensive and is performed in several centers around the country,
• The prolonged coagulation time (CT), Howell time (TH), activated partial thromboplastin time (APTT)
• Bleeding time (TS) and time Quick (TQ) are normal parameters.

At haemophiliac patients are also useful: blood count, and verification of coexisting infections as a result of repeated transfusions: tests for hepatitis B and C viruses, and HIV. It also would be useful the determination of antifactor VIII antibody dosage, in order to individualize the treatment, but this analysis is not yet available.

Haemophilic patient treatment management. Dental treatments in patients with congenital coagulation disorders were studied in the existing medical literature to find an optimal treatment for these patients.

Noted as an unanimous opinion of specialists is a mandatory factor VIII substitution therapy perioperatively, during bleeding procedures, depending on the type of haemophilia severity. This treatment is led by hematologist doctor.

Prophylaxis for patients with haemophilia is very useful, avoiding in this way the emergency response.

Regular dental checks at 3-6 months depending on the predisposition to dental caries.

Prophylaxis of the remaining teeth is very well useful, avoiding in this way the emergency response.

Dental treatments do not require supplementation with factor VII, but the dentist should assist in preventing damage to the oral mucosa during these treatments. Therefore:

• Correct use of vacuum salivary
• Special attention required in the placement of dental films, especially in the sublingual
• Avoidance of infringement of teeth-periodontium by applying recommend using digital matrix.
• Endodontic treatment is generally low-risk for patients with bleeding disorders

Prosthetic treatments
• Patients with bleeding disorders can be prothesised with mobile prostheses as long as they are comfortable.
• If we apply a partial prosthesis, it is important that the periodontal health of the remaining teeth is very well

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**Orthodontic treatment** can be practiced but:
- Periodontal damage should be avoided when the device is applied or worn
- The patient must have a very good hygiene

**Periodontal treatment.** A healthy periodontal is essential in order to maintain the teeth on the arch and also to avoid complications of periodontal disease.

It requires tartar control and plaque removal by brushing, over-and subgingival scaling.

Subgingival scaling is done after fighting inflammatory phenomena, and perhaps in several sessions, to prevent massive periodontal bleeding.

Ultrasonic scaling is preferred, being less traumatic compared to the manual one.

Using mouthwashes that contain gluconate clorhexidina proved to be useful as an adjunct to locally periodontal treatment.

Surgical periodontal treatments often make bigger problems than extractions and therefore these treatments can only be done under haematological control, after perioperative preparation.

**Dental extractions** are made only in terms of patient preparation. Also, the dentist who performs an extraction will need to have proper training and experience.

Preroperator: Dental interventions like extractions require a 50% value of VIII factor, which is very difficult to determine, but especially to achieve. Therefore, in current practice is used ATPP as a therapeutic marker. The value of this parameter is increased to haemophilia patients but normalized after the administration of VIII factor from plasma. Dental extraction can be performed when the value of APTT is corrected.

**Intraoperatively,** the dentist has the obligation to manage properly:
- Aseptic conditions and antisepsie
- Anaesthesia. They usually choose intraligamentara or the intrapapilar one. Avoid truncal anaesthesia which may produce peripheral hematomas in deep space
- Sindesmotomia must be gentle, with avoidance of infringement of the oral mucosa or periodontal lift skid
- Gentle dab compression over or intraalveolar by applying fibrin sponges wound suture after extraction
- Local application of dressings soaked in hemostatic solutions
- Tray application, in severe forms

**Postoperative**
- Postextraction control at 24-48-72 hours after, with close supervision in the period 5-7 days after extraction
- Ablation threads 7-10 days after

**CLINICAL CASE**

We present the case of a haemophiliac patient hospitalized in the Department of Hematology - Sibiu County Hospital.

G.O. patient, 37 years old is a known patient for a mild-sever form of haemophilia, also infected with hepatitis C. The severity of the form of hemophilia is determined by determining the factor VIII, the patient having a value of 2%. The patient has a haemophilic brother and a sister, carrier of the geene. We mention that the patient has two sons who have haemophilia.

Reasons for hospitalization were: biological and clinical reevaluation mouth sanitation.

On examination of the mouth is clear: preventive oncology examination of the oral mucosa reveals no-risk oncogenic formations.

**Dental Examination**
- 28 deep caries and coronal destruction
- 35 exuberant amalgam fillings in a tooth sensitivity to axial pressure
  - Periodontal examination
  - over and subgingival tartar
  - periodontal without inflammatory signs
  - proper hygiene status.

**Figure no. 1. Periodontal status**

The patient shows an upper latero-lateral edentulism and a mandibular termino-terminal without prosthetics.

We recommend a orthopantomography that shows a complicated decay of 2.8 and an apical granuloma at the level of 3.5.

**Figure nr. 2. Orthopantomography highlights granuloma destruction at 35 and 28 and coronal apical granuloma**

As a dental treatment recommandation we opt for extraction of 28 and 35, after proper preoperative preparation as hematologist doctor indicates.

Dental surgery require factor VIII increased to 50%. It is difficult to determine, and therefore it is proposed that clinically optimum extraction time is the time when APTT reaches normal values-27,5-39 sec.

Two days preoperative the patient received Immunities-concentrate VIII factor, two doses daily, and on the extraction day, two hours prior to surgery, a unity of Immunity, IV.. It was also harvested for ATPP and its value was 40sec, and INR 2.1, hematologist doctor giving its agreement for the extractions.

A peculiarity of this case was that the teeth were extracted left upper and lower arcade and decided to perform both extraction in the same session, so as not to unduly prolong the factor VIII substitution therapy, which is very expensive.

**Figure nr. 3. anesthesia for the extraction of 35**

Dental surgery consisted of:
- aseptisation puncture area
- local anesthesia, by puncture of the teeth extracted.

Tuberosity anesthesia was avoided due because one of the complications is the pit zygomatic hematoma.
Anesthesia was supplemented with intrapapilara anesthesia and thin needles, atraumatic.

Figure no. 4. 35 with apical granuloma

Figure no. 5. 28’s sindesmotomia

Figure no. 6. Extraction of 28

Figure no. 7. 28 after extraction and suture wound

- sounds supervision after extractions was carried out at 24, 48 hours, 5th day and 7th after extraction when the threads were removed. The evolution was good and the “umbrella” of Antibiotic prophylaxis was not considered appropriate.

Instructions after extraction:
- avoid hard foods, hot and fizzy drinks
- Suppression of smoking until complete wound healing

Postoperatively, the patient had no late bleeding after extractions between days 5-7. Factor VIII also received another 4 days after dental surgery. Evolution was favorable to healing.

After complete healing, local prosthetic treatment will continue.

CONCLUSIONS
1. Patients with hemophilia require special attention in addressing the dental point of view, any bleeding surgery is completely without perioperative training in hematology service.
2. Substitution therapy with factor VIII pre and post surgery and the optimal time to perform the extractions are decisions that can be taken only by the hemathologist doctor.
3. Dental treatments are done less traumatic and are individualised for each patient after the correct analyse of the loco-regional situation transposed into the general context of the disease.

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