

Use of Gemoben in Patients with Post-Extraction Bleeding

Z. B. Okboev

Termez Branch of the Tashkent Medical Academy, Uzbekistan

Abstract The article is devoted to the evidence base for the presence of the hemostatic activity of Gemoben. This is confirmed by the results obtained in post-extraction bleeding in 132 patients diagnosed with chronic periodontitis. Exacerbation of chronic periodontitis, periodontitis, and tooth retention. At the same time, a shortening of blood clotting was noted up to 2-3 minutes after applying Gemoben powder into the bleeding sockets of the teeth. This opens up new horizons for the use of this drug, which has both hemostatic and anti-inflammatory effects in socket and other intraoperative bleeding.

Keywords Dental diseases, Local hemostatic agent, Hemostasis, Hemoben, Alveolar bleeding

1. Introduction

Intraoperative blood loss is a serious complication in surgery and is accompanied by an increase in the number of complications and mortality, an increase in the duration and cost of the operation, and postoperative hospital stay. The issue of blood loss is especially relevant in the practice of maxillofacial and dental surgeons since disorders of the blood coagulation system are associated with various diseases blood making it difficult to achieve adequate hemostasis.

Currently, hemostatic therapy has a sufficient arsenal of drugs to stabilize blood coagulation parameters. Surgical hemostasis traditionally involves compression, ligation, clipping, and electrocoagulation. However, it is worth noting that these methods are not always appropriate and are often ineffective.

In this regard, various methods have been developed to stop bleeding, in particular, on the local delivery of coagulation factors in the composition of oxidized cellulose, Hemoben. However, there is no information in the literature about the hemostatic effects of this drug, which would significantly expand the scope of its use.

Thus, the purpose of our study was to substantiate the hemostatic effect of Gemoben in post-extraction bleeding [1,2,5,7,11].

2. Research Results

The material for the study was 132 patients who applied to the surgical department of the clinic with alveolar bleeding. All patients were initially treated at different stages of the disease. All of them had a preliminary history of the disease. After an objective examination of the oral cavity and establishment of a diagnosis, under local and regional

anaesthesia (lidocaine, supercaine solutions), the ligament was detached and, after selecting the appropriate instruments, the teeth of the upper and lower jaw were removed. An aseptic bandage was applied. In 132 patients, at different times from the beginning of tooth extraction, socket bleeding of varying intensity was noted. Local causes of bleeding were;

1. Vascular rupture during traumatic tooth extraction - in 12 patients with chronic periodontitis of the teeth of the upper and lower jaw.
2. Breaking off of root septa - in 16 patients with a fracture of the crown of the teeth, retention and periodontitis.
3. Inflammation in the tooth area - in 86 patients with exacerbation of chronic periodontitis of the teeth of the upper and lower jaw.
4. The effect of adrenaline in 7 patients with exacerbation of chronic periodontitis of the teeth of the upper and lower jaw.
5. Melting of blood clots blocking the lumen of vessels - patient 6 with periodontitis of the upper and lower jaw.
6. Local hyperemia from hot food or rinsing the mouth with warm antiseptics – in 5 patients with acute periodontitis and periodontitis of the upper and lower jaw.

Of the common causes, hypertension was observed in 64 patients with alveolar bleeding.

To plan the complex treatment of alveolar bleeding, a classification was performed.

Socket bleeding was classified according to the intensity and time of bleeding as follows.

- 1- Degree The blood does not stop on its own for more than 20 minutes from the moment of tooth extraction.
- 2- Degree The blood does not stop on its own for more than 40 minutes from the moment of tooth extraction.
- 3- Grade Bleeding lasts more than an hour, and there is a constant taste of blood in the mouth.

Lacerations during traumatic tooth extraction were observed in socket bleeding in 12 patients with exacerbation of chronic periodontitis of teeth 3.8 and 4.8. At the same time, at the site of the extracted teeth, there was a rupture of the soft tissues around the socket and the socket gaped, and bleeding from the socket was noted within 20 minutes. All patients underwent emergency treatment of the tooth socket with the application of gemoben powder and the walls of the socket were pressed. After bleeding control was achieved, blood pressure and pulse were measured. A general blood test was performed.

To illustrate, here is an example;

In a separate group, 11 patients were identified (3 men, and 8 women) who had recurrent bleeding from the sockets of extracted teeth of varying degrees. All patients had chronic periodontitis in the acute stage. When collecting anamnesis, various concomitant conditions were identified in 10 of 11 patients in this group diseases: hypertension in two patients, diabetes mellitus in 2 patients, iron deficiency anaemia in two patients, diabetes mellitus and hypertension in two patients, and iron deficiency anaemia with hypertension in two more.

To illustrate, we give an example: Patient A.G. born in 1966. No. 566 I went to the clinic on January 20, 2024.

Upon admission, complaints of throbbing pain in the upper jaw tooth on the right. From the anamnesis, the tooth was destroyed 2 years ago. The pain started a day ago. I went to see a dentist and the dentist referred me to a dental surgeon. Objectively, upon examination of the oral cavity, destruction of the crown of the tooth is noted. Percussion reveals sharp pain in the tooth. Palpation reveals slight pain in the mucous membrane around the tooth. Under palatal and local infiltration anaesthesia with a solution of 2% -5.0 lidocaine solution, the tooth was removed. An aseptic bandage was applied while pressing the walls of the socket. After 20 minutes, the patient returned with bleeding from the socket of the extracted tooth. Hemoben powder was applied to the socket and the bleeding stopped within 4 minutes. After 15 minutes of observation, no bleeding was observed and the patient was sent home. 3 hours after the extraction, the patient returned to the clinic with repeated bleeding from the socket of the extracted tooth. When examining the oral cavity, the blood clot in the socket was not completely formed and bleeding was noted. An emergency medicinal treatment was performed and Gemoben powder was reapplied. After 4 minutes the bleeding stopped. The patient underwent blood tests: Hemoglobin 100.0 g%, erythrocytes - 3.9-10.9 1 mm³, color index - 0.76, platelets 237.90.10.9, leukocytes - 6.8 mm³, rod-nuclear - 5 in 1 mm³, segmented 68 in 1 mm³, lymphocytes 31 1 mm³, monocytes 9 per 1 mm³ erythrocyte sedimentation rate 11 mm per hour. Total bilirubin-17.40 μmol.l, direct bilirubin-3.20 μmol.l, indirect bilirubin-14.20 μmol.l, total protein-6.38 ALAT-0.80 μmol.l, ASAT-0.32 μmol.l, Hematocrit-36% mg, Fibrinogen -275, thrombotest-11th stage, PTI-24%, PTT-19 sec. After 30 minutes of observation, no bleeding was observed and the patient was examined by a therapist and diagnosed with

Anemia. The patient was then sent home. Re-inspection recommended.

Particular attention should be paid to patients with several concomitant diseases, in which repeated late bleeding from the sockets of extracted teeth was often observed.

To illustrate, we give an example of patient S.No. born in 1949. outpatient card number 5981.

I went to the surgical department of the clinic with complaints of throbbing pain in the upper jaw tooth on the left and the feeling of an overgrown tooth. From the anamnesis, the tooth was destroyed by caries 2 years ago. I was treated by a dentist." A day ago I started having pain in my tooth. I went to see a dentist. After examination, he was referred to a dental surgeon for removal. He has a history of hypertension and diabetes mellitus. He constantly makes appointments from a therapist and an endocrinologist.

Objectively, the crown of the tooth is partially destroyed. Slightly mobile, palpation of the mucous membrane is slightly painful. On percussion, the patient feels a sharp pain in the tooth. The radiograph shows an expansion of the periodontal fissure at the apex of the 2.3 tooth. Based on clinical and radiological data, the patient was diagnosed with exacerbation of chronic periodontitis 2.3 and it was decided to remove the decayed tooth. Under mandibular and local infiltration anaesthesia with a solution of lidocaine 2%-6.0, after appropriate manipulations, the tooth was removed. An aseptic dressing is applied. After 25 minutes, the patient returned with alveolar bleeding. After medicinal treatment of the tooth socket, Gemoben powder is applied to the socket and an aseptic bandage is left. The patient went home on her own. 3 hours after the removal, the patient returned to the dental surgeon with alveolar bleeding, general weakness, and dizziness. On an emergency basis, medicinal treatment of the extracted tooth socket was carried out, the powder was reapplied and an aseptic bandage was applied. The patient underwent a blood test: Hemoglobin - 104 g-l, erythrocytes - 3.8.10.9 1 mm³, color index - 0.82, platelets - 247-10.9 g-l, leukocytes - 5.8 1 mm³, rod cells - 3 1 mm³, segmented cells - 67 1 mm³, lymphocytes-28 1 mm³, monocytes-8 1 mm³, erythrocyte sedimentation rate-11 mm per hour, total bilirubin-16.3 μmol, direct bilirubin-2.10 μmol, indirect bilirubin-14.20 μmol, total protein-6.02g %, AST-μmol 0.36, ALT-0.76μmol, Hematocrit-39%, Fibrinogen-375mg, thrombotest-5 degrees, PTI-97%, PTT-15 seconds, Blood sugar-14.4 mmol. When measuring blood pressure, 175-100 mm Hg. Pulse 90 beats per minute. The patient was examined by a therapist and an endocrinologist and antihypertensive and glucose-lowering drugs were prescribed. After 40 minutes, the patient's blood pressure dropped to 135-85 mmHg. Pulse 8 beats per minute. General condition improved; no rebleeding observed.

3. Conclusions

Thus, patients most often experience alveolar bleeding with exacerbation of chronic periodontitis, especially in patients

with concomitant diseases who experience late and ongoing bleeding. In this regard, before tooth extraction, it is necessary to pay special attention to this category of patients.

Surgical interventions in surgery, including maxillofacial surgery, are invariably accompanied by bleeding. To stop bleeding during surgery and in the postoperative period, it is necessary to use hemostatic agents, including their local use. To study the hemostatic effect of a new drug during surgery and the postoperative period.

We chose the powdered hemostatic drug Gemoben, which was synthesized in the laboratory of the Institute of Chemistry of the Academy of Sciences of the Republic of Uzbekistan.

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