# SOME CONSIDERATIONS ON THE CAUSES, TYPES, SYMPTOMS, AND METHODS OF BLOOD STOPPING BLOOD

# **Toirov Abdukhamid Suvonkulovich**

Senior teacher of the department of Surgical diseases, Samarkand State Medical University

**ABSTRACT:** This article discusses the causes, types, symptoms and methods of stopping bleeding. It contains information about the main causes of bleeding, factors, and related processes in organs.

**KEY WORDS:** symptoms, pathological condition, blood circulation, oncological diseases, necrosis, erythrocyte

#### INTRODUCTION

Bleeding is the outflow of blood from vessels into the environment, a hollow organ, a cavity by violating the integrity of the vascular wall or increasing its permeability. Bleeding is a life-threatening condition that requires emergency care. Fatal is not so much the loss of erythrocytes as a decrease in the volume of circulating blood, with the further development of hemodynamic disorders, coagulopathy. A pathological condition can complicate the course of the underlying disease, injury, interfere with the work of a surgeon, an obstetrician. There are the following types of bleeding:

- external and internal;
- capillary, venous, arterial;
- primary, secondary;
- acute, chronic;
- small, medium, large volumes, massive, lethal.

The reasons for the development of the pathological condition are: mechanical damage to the vessel wall during trauma or surgery, damage to the vessel wall as a result of necrosis, ulcers, inflammation during tumor decay or other pathological process, violation of the permeability of the vessel wall (with beriberi C, sepsis, uremia, high blood pressure).

As a result, the volume of circulating blood (VCC), cardiac output decreases, the rheological properties of blood are disturbed, which leads to the development of ischemia of organs and tissues.

#### RESULTS AND DISCUSSION

In the acute period, the body tries to compensate for blood loss. There is a centralization of blood circulation, an increase in tone and spasm of peripheral vessels in the skin, digestive organs, and kidneys. The body does its best to maintain proper blood supply to the heart, lungs, and brain. There is a release of fluid from the intercellular space, fluid is mobilized from the muscles, liver, spleen. Tachycardia develops, breathing becomes more frequent, diuresis decreases. With a long course of centralization of blood circulation, ischemia of peripheral tissues, a decrease in pH, and acidosis develop. This leads to decentralization of blood circulation.

At the same time, erythrocytes, platelets, leukocytes begin to stick together in the capillaries, blood viscosity increases, multiple organ failure develops. Normally, when damaged, the vessel spasms, blood cells adhere to the damaged endothelium of the vessel, which are subsequently penetrated by fibrin threads. As the pathological process resolves, the thrombus resolves. The most common causes of the chronic form of the pathological process are: stomach ulcer, nonspecific ulcerative colitis, Crohn's disease, haemorrhoids, oncological diseases.

In chronic blood loss, even loss of blood in large volumes does not lead to death. Obstetric bleeding can occur when: placenta previa, its premature detachment, hypotension and atony of the uterus after childbirth, incomplete discharge of the placenta, rupture of soft tissues after childbirth, amniotic fluid embolism and blood clotting disorders.

According to clinical guidelines, in order to prevent postpartum hemorrhage, the 3rd stage of labor should be actively managed. In the acute form of bleeding, the following general symptoms develop: general weakness, dizziness, lethargy, impaired consciousness, flies before the eyes, feeling of fear, lack of air, nausea, pale skin, cold sweat, decrease in blood pressure figures.

Local signs are manifested in the form of bleeding from the nose (with nosebleeds), from the ears (with TBI), from the vagina (with uterine bleeding), from the rectum (with hemorrhoids). With the development of the pathological process in the internal organs, the following are noted: hemoptysis (lungs), vomiting of blood or

in the form of "coffee grounds" (esophagus, stomach), melena, bloody stools (lower gastrointestinal tract), admixture of blood in the urine (kidneys, ureters, bladder).

With latent blood loss, patients may complain of abdominal pain, bloating, shortness of breath. With hemarthrosis, the joint increases in volume.

With chronic blood loss, patients may note:

- weakness, dizziness when moving to a vertical position;
- shortness of breath, which increases with exercise;
- loosening of the stool, admixture of blood in the feces;
- pallor or yellowness of the skin;
- palpitations that appear with increasing physical activity.

Chronic bleeding in women occurs with prolonged, heavy periods. Considering that a large amount of blood is lost every month, the body compensates for hypoxia by increased synthesis of red blood cells. But in conditions of a lack of iron in the body (and the right amount of iron is not supplied with food), anemia develops. Especially dangerous are bleeding during pregnancy and childbirth. The pregnant uterus is supplied with blood by large blood vessels, when damaged, the BCC instantly decreases, up to the mattress getting wet through with blood. Hereditary blood diseases can manifest themselves in a child from childhood in the form of frequent nosebleeds, bruising with minor bruises, and hemarthrosis. Gastric bleeding often occurs against the background of peptic ulcer. An ulcer can develop quickly, in one day, against the background of stress. Also noteworthy is the uncontrolled intake of NSAIDs. Gastropathy develops not only with the internal administration of painkillers, but also with their parenteral administration.

Diagnostic measures are aimed at identifying the cause of blood loss, conducting differential diagnostics with other pathological conditions.

With external bleeding, the diagnosis is not difficult. The localization of the wound can roughly estimate the amount of blood loss.

With internal bleeding, the data obtained during percussion, palpation, and auscultation are evaluated. The data obtained during probing of the stomach, catheterization of the bladder, digital examination of the rectum are taken into account. Blood pressure is measured, respiratory and heart rate, pulse characteristics are recorded.

The doctor may prescribe the following types of diagnostics: general clinical analysis of blood and urine, FGDS, laparoscopy, thoracoscopy, arthroscopy, cystoscopy, puncture of the pleural, abdominal cavities, spinal puncture, joint puncture, MRI, CT, ultrasound, angiography.

There are a number of indices and formulas that help to easily determine the deficit of BCC. The scope of the study depends on the type of damage, the patient's condition, the equipment of the clinic and is compiled by the doctor individually for each.

First of all, it is worth assessing the patient's condition, the need for emergency care. The doctor decides how to stop the bleeding, temporarily or permanently. Temporarily stop the bleeding will help the following techniques:

- 1. application of a tourniquet above the injury site;
- 2. change in the position of the body, limbs;
- 3. pressing the vessel with a finger above the injury site;
- 4. flexion of the limb, using a roller at the place of the fold;
- 5. imposing of a clip on a vessel;
- 6. tamponade of the wound;
- 7. applying a pressure bandage.

Methods for temporarily stopping bleeding are used mainly in first aid. For the final stop of bleeding, the following methods of exposure are used:

Mechanical. The vessels in the wound are tied up, sutured throughout, vascular sutures are applied, vessels are shunted, endovascular embolization is performed, the damaged organ is removed or resected. Physical. The cavity is washed with ice water, ice is applied to the wound, liquid nitrogen is used. High temperatures are used in the form of applying a hot napkin to the parenchymal organ, using laser coagulation, electrocoagulation.

#### **CONCLUSION**

Chemical. Apply topically hydrogen peroxide, adrenaline, aminocaproic acid. Inside, fibrinolysis inhibitors, calcium chloride, Dicinon, vitamin K (Vikasol), vitamin C, rutin are used. Biological. The wound is packed with own tissues, plasma preparations are used (thrombin, fibrinogen, hemostatic sponge, cryoprecipitate, fresh frozen plasma, platelet mass).

The goal of treatment is to stop bleeding and replenish blood loss. BCC is restored with colloidal, crystalloid solutions, erythrocyte-containing preparations. Volume, rate of administration depend on the clinical situation. In addition, therapy of concomitant pathological conditions diseases, prevention of bleeding and complications is carried out. In obstetric practice in the postpartum period, apply:

- manual revision of the uterine cavity and removal of clots and placental remnants;
  - uterine massage internal and external;
  - administration of uterotonic drugs;
  - the introduction of drugs aimed at normalizing hemostasis.

If the treatment fails, the uterus is removed. Massive blood loss is dangerous in terms of the development of DIC, in which all factors of the blood coagulation and anticoagulation systems are depleted. Even with full replenishment of the BCC, blood loss can continue.

Treatment largely depends on the current state of all organs and systems of the body. It is necessary to treat chronic diseases in a timely manner. This will greatly affect the outcome of bleeding.

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