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Research Article

GLUCOCORTICOSTEROID COMPLICATIONS DURING TREATMENT OF AUTOIMMUNE THROMBOCYTOPENIA

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Mustafakulov Gaybulla Irisbaevich
Assistant Professor Of Department General Surgery No.2, Tashkent Medical Academy, Uzbekistan

ABSTRACT

The article presents the causes of bleeding from an acute ulcerstomach when using GC hormones in patients with Werlhof's disease. In this case, the use of tablets in the form of inhalation or intravenous administration. The connection of indications for endoscopic examination of the gastrointestinal tract has been proven and bleeding from a stomach ulcer from the number of platelets. Endoscopic examinations in Werlhof's disease is recommended to be carried out in remission. Indications of splenectomy if ineffectiveness of conservative treatment.

KEYWORDS

Thrombocytopenia, glucocorticoids, acute ulcers, bleeding, tactics.

INTRODUCTION

Often, among the causes of bleeding from the upper gastric tract (GT), erosive and ulcerative lesions of the stomach come first. Acute ulcers of the digestive system are observed at any age. The frequency of acute ulcerative lesions in old age reaches 74.6%. When complications such as bleeding occur in 60–70% of cases, or perforation in 0.5–3% of cases, acute ulcers are detected during examination. Often, acute erosions and gastric ulcers, complicated by bleeding, occur in patients after glucocorticosteroid (GCS) therapy (6,7,9) in patients with Werlhof's disease. This is characterized by multiple lesions. The predominant location of ulcers is on the greater curvature of the stomach with a latent course. Among GCS, prednisolone (per os) is considered as a standard drug for pharmacodynamic therapy, especially in patients

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with thrombocytopenia. Hormones cause dysfunction of the gastrointestinal tract in 24.4% of cases, and the ulcerogenic effect of drugs, especially when administered orally, occurs in 3.5-7.5%. Complications of GCS therapy in the gastrointestinal tract are associated with duration, large doses and improper administration of GCS hormones per os (1,2,6,7,8). According to G.M. Chernyavskoy et al. (1996), in 26.9% of patients, N.A. Romanova et al. (1996), in 15.4% of patients treated with GCS for another pathology, a gastric ulcer was detected. The cause of gastric ulcer development is gastric hypersecretion. The acid-forming function of the stomach, according to intragastric pH-metry, was significantly increased (pH 1.1±0.06) in all patients (Vakhrushev Ya.M. et al., 1997). Recently, a number of works have appeared (L. M. Kaskevich, O. S. Radbil and S. G. Vainshtein, Grosa, etc.), which develop the Bojanowicz hypothesis, according to which one of the main mechanisms of the pathogenesis of peptic ulcer disease is dyscorticism (increased glucocorticoid and decreased mineralocorticoid functions of the adrenal cortex). Certain drugs (caffeine, synthetic hormones of the adrenal cortex - glucocorticoids, reserpine) stimulate increased formation of hydrochloric acid by the parietal cells of the stomach. In addition, glucocorticosteroids stimulate the secretion of pepsin and gastrin, which further increases the aggressiveness of gastric contents. In some cases, stomach ulcers after taking corticosteroids were complicated by perforation or bleeding. According to the literature, about 5% of patients with Werlhof's disease experience acute gastric bleeding (GI). Mortality in gastrointestinal tract infections from acute ulcers in patients in intensive care units reaches 80%, and the number of patients with thrombocytopenia is growing every year. Standard treatment begins with corticosteroids and hormonal therapy (per os) (7,8,9). In the acute period or relapse of Werlhof's disease, any injury to the mucous membrane leads to an increase or relapse of GI. Considering this tactic, the management of patients with gastrointestinal tract with thrombocytopenia has its own characteristics. Therefore, the search for the development of methods for preventing relapse and methods for conservative and surgical treatment of gastroduodenal gastrointestinal tract with thrombocytopenia is today an urgent problem in surgical hematology and general surgery.

MATERIALS AND METHODS

In a study of Verlhof's patients, the medical history of 67 (70.5%) of 95 patients revealed a hormonal complication from the gastrointestinal tract. Taking GCS hormones enterally often resulted in complications from the ventricle, in particular in the form of gastritis in 28 (75.7%), gastric ulcers in 9 (24.3%), in addition, ulcers of the duodenum (or exacerbations of the duodenum) were detected) in 5 (5.3%), exacerbation of colitis in 4 (4.2%), gastrointestinal tract

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discomfort in 14 (10.5%), stomach pain in 7 (5, 3%). In total, 37 (55.2%) of 67 patients with Werlhofam diseases had gastric complications after enteral administration of corticosteroids. Bleeding from an acute gastric ulcer was noted in 7 (18.9%) patients. In 7 patients with gastrointestinal tract upon admission to the clinic, the platelet count was from 1 unit. up to - 21x10 9/l. PS – from 92 to 120 beats per minute. A/D from 110/65 to 90/60 mm. rt. Art. One had severe, 3 had moderate, and 3 had mild posthemorrhagic anemia. All patients received conservative treatment: restoratives, hemostatic and vascular-strengthening drugs, corticosteroids hormones - prednisolone or dexamethasone in tablets, intravenous injections or inhalation with simultaneous treatment of erosion and gastric ulcers. GCS were prescribed at 1-1.5 mg/kg per day. The duration of the disease ranged from 6 months to 20 years and during this period the patients received hormonal treatment from 1 to 3-7 or more times. With parenteral administration of glucocorticoids there were bruises at the injection sites, and in 6 patients there was a hematoma after intravenous administration. According to the coagulogram, hypocoagulation was recorded in all cases. In the myelogram: the bone marrow puncture in all patients is quite cellular, the type of hematopoiesis is normoblastic, the content of lymphocytes is normal, there are enough or many megakaryocytes, but most of them do not contain plates. In patients with gastric bleeding, the platelet count was below 30x10 9 / l. Endoscopic examination of patients with gastric bleeding was carried out with continued gastric bleeding under enhanced hemostatic therapy in one patient, in other cases after clinical remission.

Example 1. Patient A.V. 32 years old. Case history No. 1865. Complaints upon admission: blue bruises in the extremities, pain in the epigastric region, black stool. From the anamnesis: he has been ill for about 4 years and has received hormonal treatment several times. The skin and mucous membranes are pale. Ps – 90 beats per minute, BP – 100/65 mm Hg, Cor – without any changes. Tongue is wet. The abdomen is involved in the act of breathing, soft, there was pain in the epigastric area. The liver is not enlarged. The stool is loose, regular, black. The patient underwent examinations: general blood and urine analysis, biochemical studies, coagulogram, chest studies, ultrasound examination of the abdominal organs, endoscopic studies, bone marrow studies. Examination: complete blood count, Hb – 95 g/l, erythrocytes – 3.4 million, color index – 0.6, leukocytes – 7.0 x 109/l, platelets – 15.0 x 109/l, segmented – 66 %, eosinophils – 1%, lymphocytes – 27%, monocytes – 5%, ESR – 7 mm/h. Coagulograms: KKV - 46, prothrombin index - 89%, plasma tolerance to heparin – 13,40, plasma fibrinogen - 2.12 g/l, fibrinolytic activity - 150, blood clot retraction - 0.28.

The patient received the following treatment: hemostatic agents, restorative and glandular

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preparations, antiulcer therapy and was treated for 5 days with inhalation of dexamethasone 12 mg. The bleeding has stopped, the stool is normal. Ps – 78 beats. per minute, blood pressure – 120/8 mm Hg. Art. Hb – 121 g/l, platelets – 52.8 x 109/l, leukocytes – 6.0 x 109/l, hemorrhagic syndrome was relieved, single skin ecchymoses remained. Discharged with clinical remission on day 10. EFGDS (5-day) – Moderate catarrhal gastritis. In the area of the cardiac part of the stomach there is multiple erosion and an acute ulcer; there is also a fresh thrombus and in places covered with a pinpoint fibrin coating.

Diagnosis: Werlhof's disease, chronic, in the acute stage.

Complication: Acute (steroid) ulcer (multiple erosion) of the stomach. Moderate posthemorrhagic anemia.

Example 2. Patient K.N., 21 years old. Case history No. 2124. Upon admission, complaints of weakness, fatigue, dizziness, headache, pain in the epigastric area, prolonged and profuse mensis, bruises and small rashes on the body, black stool. From the anamnesis: she has been ill for 1.5 years, received treatment several times with a temporary effect, received hormonal medications per os, over the last 2 weeks the above complaints have reappeared. In the last 6 months, the patient developed a steroid gastric ulcer, diagnosed after endoscopy. The condition upon admission was severe. The skin and mucous membranes are pale blue, small hemorrhagic rashes in the extremities, bruises up to the size of the palm, more on the lower extremities, at the injection site and in places in the anterior abdomen. Subcutaneous fatty tissue is developed, moon-shaped face, lymph nodes are not palpable. PS – 105-115 beats per minute, rhythmic, blood pressure – 85/60 mm Hg. Cor – muffled tone, systolic murmur at the apex. Pulmonis – vesicular breathing on both sides. The tongue is moist, the abdomen is enlarged in volume due to the subcutaneous fat layer, participates in the act of breathing, soft, pain in the epigastric region, tense muscles, no irritation of the peritoneum. The liver and spleen are not palpable. Pasternatsky's symptom is negative on both sides. The stool is loose, regular, black. Urination is free and regular. The patient has had mensis since the age of 14, in recent years it has been irregular, lasting up to 2 weeks, and heavy for 7 days. Examinations: upon admission: Hb – 53 g/l, erythrocytes – 2.2 million, color index – 0.6, leukocytes – 6.0 x 109/l, platelets – single. Coagulogram: CCV - 48, PTI - 67%, plasma heparin tolerance - 19, plasma fibrinogen - 1.99, fibrinolytic activity - 130, blood clot retraction - 0.27. Biochemical tests: total protein - 58.5 g/l, total bilirubin - 23.7, direct - abs, indirect - 23.7 mol/l, ALT - 1.1 mol/l, AST - 0.5 mol/l, HBsAg – negative. Ultrasound – fatty hepatosis. ECG – sinus tachycardia, changes in the left atrium, depolating changes in the myocardium.

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Based on these data, a diagnosis was made: Werlhof's disease, a chronic, often relapsing course.

Complications: steroid gastric ulcer, Cushingism, hyperpolymenorrhea. Severe posthemorrhagic anemia.

Concomitant: chronic hepatitis.

The patient received a general strengthening agent, hemostatic agents, Riboxin, glandular and potassium preparations, red blood cell mass, and plasma. Dexamethasone solution 6.0 mg per day by inhalation for 3 days and 7 days 4.0 mg per day + 4.0 mg intravenously. General tests on the 3rd day of treatment: Hb – 110 g/l, erythrocytes – 3.9 million, platelets – 36.1 x 109/l, leukocytes – 6.1 x 109/l, lymphocytes – 32%, ESR – 8 mm/hour. EGDFS (day 3) – a stomach ulcer was detected. The patient's condition improved, hemodynamics stabilized, stool color returned to normal. Petechiae on the body disappeared on days 5-6, the bruises decreased and some resolved, the color became yellow-brown. On the 14th day of treatment: Hb - 118 g/l, erythrocytes - 4.0 million, platelets - 80.0 x 109/l, leukocytes - 7.0 x 109/l, segmented - 59%, lymphocytes -37 %, ESR – 9 mm/hour. Accordingly, positive changes in the coagulogram. After stabilization of the patient's general condition, an operation was performed - splenectomy according to the clinic's proposed method. During the operation, blood loss was more than 30.0 ml; after the operation, about 10 ml was released through the drainage tube and removed on the 2nd day. The postoperative course is smooth. General blood test after surgery: Hb - 129 g/l, erythrocytes - 4.2 million, platelets - 175.0 x 109/l, leukocytes -6.7 x 109/l, segmented - 75, lymphocytes - 14.0 %, ESR - 5 mm/hour. Coagulogram: CCV - 37, PTI - 95%, plasma tolerance to heparin - 10, blood clot retraction - 0.4. Discharged on the 9th day after surgery in satisfactory condition, clinical and hematological remission.

RESULTS AND DISCUSSION

After hormonal treatment, in 2 patients with thrombocytopenia (33.3%), platelets rose to 60 thousand and on the 4th day the hemorrhagic syndrome in the form of GI was stopped. Clinical remission was obtained on average on day 10, and in 4 (66.7%) patients platelets reached from 150,000 to 175,000 on average on day 7. In all 4 patients, the phenomena of hemorrhagic syndrome in the form of gastrointestinal tract were stopped on days 2-3 of treatment and clinical and hematological remission was obtained. In 1 patient, after splenectomy, clinical and hematological remission was obtained.

Hemodynamic parameters returned to normal in all patients. In two patients, hemoglobin rose to normal; the rest were discharged with mild anemia. Clinical observations indicate that when taking GCS hormones

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per os in large doses, as well as for a long time in patients with Werlhof's disease, complications from the gastrointestinal tract may occur. GCS not only cause the development of ulcers, but also inhibit the healing of existing ulcers. Experimental reproduction of acute insufficiency of the adrenal cortex causes suppression of secretion, disruption of the mucous membrane with the development of ulcers. In conditions of hormonal deficiency, the resistance of the mucous membrane to the action of ulcerogenic factors of the stomach undoubtedly decreases. Large doses of corticosteroid hormones, when administered repeatedly peros, slow down the healing of affected areas of the gastrointestinal tract and lead to an exacerbation of the pathological processes existing in it. Long-term hormonal therapy leads to insufficiency of the adrenal cortex, this, in turn, suppresses the secretion of the gastrointestinal tract, leads to disruption of the integrity of the mucous membrane and the development of gastritis, duodenitis or ulcers in the gastrointestinal tract. In thrombocytopenia, the vascular endothelium, deprived of the angiotrophic function of platelets, becomes porous, brittle, and increased permeability, especially in patients with severe hemorrhagic syndrome and with hormonal damage to the gastrointestinal tract, and is often complicated by bleeding.

CONCLUSION

Taking this into account, hormonal drugs have been transferred from per os to inhalation or intravenous administration with increasing doses. Endoscopic examination is carried out with ongoing gastric bleeding under enhanced hemostatic therapy. During endoscopic examination, any additional injury can become a source of bleeding, including local endoscopic hemostasis. Further endoscopic examinations and treatment should be carried out after normalization of the number of platelets in the blood and their function. There is a definite relationship between the platelet count and clinical manifestations. When the platelet count is above 30-50x109/l, the course of the disease is often asymptomatic. When the platelet count is below 30x109/l, hemorrhagic complications appear. You need to know that determining the cause of bleeding is only possible using laboratory methods. If conservative treatment fails and bleeding continues, emergency splenectomy is recommended.

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