

BLEEDING INDUCED BY TAKING NON-STEROID ANTI-INFLAMMATORY DRUGS IN THE UPPER GASTROINTESTINAL TRACT

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Abstract

At first glance, it is paradoxical that more people suffer from gastrointestinal bleeding, against the background of an emerging trend towards a decrease in the incidence of peptic ulcers, especially gastric ulcers. This trend is largely due to the widespread use of nonsteroidal anti-inflammatory drugs (NSAIDs) , which cause erosions and ulcers of the digestive tract.

Introduction

A decrease in the cytoprotective properties of the gastric mucosa, caused by a decrease in the synthesis of prostaglandins in the stomach under the influence of NSAIDs, is the main cause of erosive and ulcerative lesions of the upper gastrointestinal tract. [1,6,13]. When taking NSAIDs and blocking COX-1, all these PG functions are suppressed, which leads to hypersecretion and increased acidopeptic activity of gastric juice, an increase in its aggressive properties, weakening of protective properties and damage to the mucous membrane of the stomach and duodenum. At the same time, all three levels of protection of the gastric mucosa are reduced (pre-epithelial , epithelial and post-epithelial, represented by the regional blood supply and the microvasculature of the blood), conditions are created for erosive and ulcerative damage to the mucous membrane of the stomach and duodenum, and prerequisites arise for the chronicization of the pathological process. It is also necessary to note the risk factors for the development of erosive and ulcerative damage to the mucous membrane of the stomach and duodenum when taking NSAIDs [1,11,15].

- age over 65 years (increased risk of complications by 4 times);
- a history of peptic ulcer disease (increased risk by 14–17 times!);
- combined use of NSAIDs with glucocorticoids , anticoagulants, antiplatelet agents , cyclosporine A and methotrexate ;
- high doses of NSAIDs and combinations of drugs from this group;
- the presence of concomitant diseases (coronary artery disease, essential arterial hypertension, liver or kidney failure);
- long course of treatment with NSAIDs;

A feature of the current period is also an increase of more than 2 times in the number of elderly and senile patients, including those suffering from ulcerative bleeding. Mortality in acute gastrointestinal bleeding of ulcerative etiology is 5-20%; mortality after emergency operations for recurrent ulcer bleeding is 4-73%, and among elderly patients it exceeds 80 % [2,8,10].

The statement of some authors that *Helicobacter pylori* (Hp), which colonize the stomach, increase the risk of erosive and ulcerative damage to the mucous membrane of the stomach and duodenum by 1.5 times when taking NSAIDs, and a course of eradication of these bacteria



can prevent the development of NSAID gastritis [6,8,13]. The authors of the Maastricht Consensus 1–5 also strongly recommend that all patients scheduled for treatment with NSAIDs undergo pre- eradication HP [2,3,12,15].

gastroduodenal bleeding today includes primary endoscopic hemostasis, the effectiveness of which for ongoing ulcerative gastroduodenal bleeding ranges from 97% to 100 % [4,14] . In combination with modern antiulcer drugs, the most effective of which are proton pump inhibitors (PPIs), this can significantly reduce the frequency of relapses of ulcerative gastroduodenal bleeding after primary endoscopic hemostasis from 12-42% to 2.7-8.9% [3,7, 16]. All this allows us to consider endoscopic hemostasis in combination with modern anti-ulcer therapy with PPIs as an alternative to surgical treatment.

The purpose of the study is to determine the role of non-steroidal anti-inflammatory drugs in the development of bleeding from the upper gastrointestinal tract.

Material and Methods

This report is based on an analysis of the results of treatment of 1155 patients with gastrointestinal bleeding from the upper gastrointestinal tract in the surgical department of the Bukhara branch of the Russian Research Center for Emergency Medicine from 2014-2020. The age of patients ranges from 16 to 72 years. Men made up 71%, women - 29%, 26.2% of patients were over 60 years of age.

Based on etiology, patients were divided into 2 groups: Group 1, patients with gastrointestinal bleeding of ulcerative etiology accounted for 765 (66.3%) patients. Of these, bleeding due to chronic ulcers of the stomach and duodenum accounted for 498 (64.8%) patients, acute ulcers of drug origin, as a result of drug effects on the mucous membrane of the stomach and duodenum - 248 (32.4%) patients. Peptic ulcer of gastroenteroanastomosis , complicated by bleeding - 19 (2.48%) patients. In the second group, patients with gastrointestinal bleeding of non -ulcer origin accounted for 390 (33.7%) patients. Of these, 259 (66.4%) patients had bleeding from the esophagus and stomach due to portal hypertension, Mallory-Weiss syndrome in 33 (8.4%) patients; in 54 (13.8%) patients, the source of bleeding was malignant tumors of the stomach and intestines 44 (11.2%) - erosive hemorrhagic gastritis, duodenitis (Table 1).

Table 1. The main causes of bleeding from the upper gastrointestinal tract

Causes	1gr (n)	2 gr (n)	Sick	%
Peptic ulcer	498		498	43.1
Erosion of the stomach and duodenum	248	44	292	25.3
Varicose veins of the esophagus and stomach		259	259	22.4
Peptic ulcer gastroanastomosis	19		19	1.6
Tumors of the esophagus and stomach		54	54	4.7
Mallory-Weiss syndrome		33	33	2.8
Total	765(66.3%)	390(33.7%)	1155	100%



It should be noted that in 86 (22%) patients in group 2, gastrointestinal bleeding was facilitated by the use of NSAIDs. In total, bleeding due to NSAIDs accounted for 334 (43.6%) patients from all ulcer bleeding. The assessment of the severity of the patient's condition and the degree of blood loss were classified according to A.I. Gorbashko, distinguishing mild, moderate and severe. Mild blood loss in group 1 occurred in 428 (55.9%), moderate in 220 (28.7%), severe in 117 (15.3%) patients. In the 2nd group, gastrointestinal bleeding of non-ulcer origin, blood loss of mild severity was in 259 (66.4%), moderate in 92 (23.5%), severe in 39 (10%) patients. We performed endoscopic examination in all patients of group I to determine the source and assess the degree of bleeding according to the Forrest classification (1987). FI A was detected in 76 (9.8%), FI B y - 152 (19.8%), FII A y - 334 (43.6%), FII B y - 123 (16%), FIIC y - 66 (8.6%), FIII in 14 (1.8%) patients. Hemoglobin levels ranged from 31 to 98 g/l. All patients with bleeding of ulcerative etiology underwent endoscopic clipping of the bleeding vessel or diathermocoagulation to achieve hemostasis. In case of bleeding from the esophagus and stomach due to portal hypertension, endoscopic hemostasis was performed by ligating the bleeding node. After completion of endoscopic hemostasis, all patients received antisecretory therapy with PPIs. Losek was administered at a maximum dosage of 160 mg per day as a continuous intravenous infusion until the risk of recurrent bleeding was eliminated (usually within 3-4 days), then 40 mg per day per os. Patients with a low risk of recurrence of ulcerative dysplasia also received antisecretory therapy with proton pump inhibitors. Losek was used at a dosage of 40 mg/day per os. All patients received anti-Helicobacter therapy: Amoxicillin 2 g per day, Clarithromycin 1 g per day, for 7-10 days, denol 240 mg twice a day for 15 days. Dynamic endoscopy was performed in all patients at 2, 3 (only for patients with high risk recurrence of DU), 4, 7, 14 and 28 days from the initial examination. If necessary (active bleeding, exposed thrombosed vessels, or a fixed thrombus clot), during dynamic endoscopy, prevention of recurrent bleeding was performed using a previously used hemostasis method. Comprehensive basic and conservative therapy was carried out: infusion therapy, hemostatic agents, transfusion of fresh frozen plasma, red blood cells masses, etc. Early endoscopic examination was the most effective means of identifying the causes of bleeding. So-called delayed operations were performed on patients with stopped bleeding with massive blood loss, as well as with recurrent bleeding, regardless of the degree of blood loss, usually within 24 hours. With stable hemostasis and moderate blood loss, patients were operated on in the "cold" period in the first 2 weeks from the moment of admission. In patients with gastroduodenal bleeding, relapses of bleeding from the ulcer were observed on days 3-4. In 62 patients, bleeding was stopped by repeated endoscopic clipping or diathermocoagulation. In 55 patients, hemostatic measures and endoscopic hemostasis were ineffective, which was an indication for emergency surgery. 16 (29%) patients underwent gastric resection according to Billroth - I, 14 (25.4%) - gastric resection according to Billroth - II, 13 (23.6%) underwent excision of the ulcer with pyloroplasty according to Judd. In extremely severe conditions, 12 (21.8%) patients underwent gastroduodenotomy with suturing of the vessel at the bottom of the ulcer. Mortality in the group of operated patients with gastroduodenal bleeding was observed in 4 (7.2%) patients. The predominant causes were: Pulmonary embolism and acute cardiovascular failure. Of 390 patients with gastrointestinal bleeding of non-ulcer origin due to the ineffectiveness of endoscopic hemostasis and hemostatic therapy and the threat of



recurrent bleeding, 44 (11.2%) patients with varicose veins of the esophagus were operated on as a result of portal hypertension in the stage of decompensation, complicated by bleeding. Patsiora's operation was performed - gastrotomy, suturing of vessels of the cardioesophageal zone in 11 (2.8%), and in patients with polyposis and stomach tumor, complicated by bleeding at the height of bleeding, an operation was performed - gastrotomy, suturing of bleeding vessels in - 34 (8.7%) sick. Postoperative mortality in patients in this group was observed in 11 (12.3%) patients. High numbers of postoperative mortality are largely determined by forced intervention in seriously ill patients with advanced tumor processes or with profuse bleeding from the esophageal veins against the background of decompensated cirrhosis of the liver.

Conclusions

1. It has been reliably established that in patients with acute gastrointestinal bleeding of the upper gastrointestinal tract, in 43.6% of cases a connection was found with taking NSAIDs, which should be taken into account when considering the epidemiology of bleeding from chronic and acute ulcers of the stomach and duodenum.
2. In the existing socio-economic conditions and the current health care system, the regulation of the sale of NSAIDs in pharmacies, in accordance with the medical prescription, and the rational pathogenetic treatment of peptic ulcer disease in outpatient settings, the prevention of exacerbations and complications of peptic ulcer disease, which without close cooperation are of utmost importance surgeons and gastroenterologists are impossible.

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