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*Treatment of non-variceal upper gastrointestinal tract bleeding
within our experience*

Gastrointestinal bleedings remain a significant clinical problem. They account for 6–7% death rate of all bleeding patients (1, 2). Excluding esophageal varices, gastric and duodenal ulcers (56%), erosions (10%) oesophagitis (9%), Mallory-Weiss syndrome (4%), Dieulafoy lesion (2%) are the most frequent sources of non-variceal upper gastrointestinal bleeding (3, 4). In 2–5% cases it is impossible to locate the source of bleeding despite improved diagnostic methods. About 80% of all gastrointestinal bleedings stop spontaneously (5, 6). The other 20% cases if left untreated may lead to patient's death. Mortality risk increases significantly, up to 40%, in the patients with severe concomitant diseases and in case of rebleeding (7). Therefore it is essential to make a precise diagnosis and implement prompt treatment including pharmacotherapy and endoscopy. Endoscopy performed by an experienced endoscopist allows to locate the source of bleeding and begin prompt local treatment. Additionally it provides information necessary to assess the risk of rebleeding and prognosis. The task of pharmacotherapy is among others to control pH inside the stomach to create the conditions that will favour the healing of lesions which are the bleeding source and often prevent rebleeding.

MATERIAL AND METHODS

The retrospective study assessed the patients hospitalized in the Department of Gastroenterology, Medical University of Lublin in the period 1st January 2006–30th June 2007. The analysis of case histories and patients' medical records were the basis to select a group of patients hospitalized for non-variceal upper gastrointestinal bleeding. Panendoscopy was performed in 97% patients, in 3% cases the examination was not carried out due to general health condition or no consent obtained. Those patients were excluded from further analysis.

The study assessed the following parameters: age, gender, cause of bleeding and treatment method applied. According to the treatment method the patients were divided into a group treated surgically and a group on conservative (nonsurgical) treatment. The group of patients administered conservative treatment were further subdivided into those who underwent endoscopy combined with pharmacotherapy and those who received pharmacotherapy alone. Additionally the length of bleeding time from the moment of patient's admission was assessed in both groups.

Statistical analysis. The length of hospitalization in the group of patients receiving pharmacological treatment and undergoing pharmacotherapy with endoscopy was presented as means and SD and statistically analyzed by t-Student test, $p < 0.05$ assumed statistically significant.

RESULTS

Total 275 patients (13.88% all admissions) were hospitalized for non-variceal upper gastrointestinal bleeding in the Department of Gastroenterology, Medical University of Lublin over the period of 1.5 years. The group of patients assessed consisted of 163 males (59.2%) aged 19–86 yrs and 112 females (40.8%) aged 28–83 yrs, mean age of admissions 48.2 yrs. Endoscopy was performed in 266 patients. Bleeding was due to duodenal ulceration in 136 (51.12%) cases, ulceration of the stomach in 34 (12.78%) patients, hemorrhagic erosive gastritis in 28 (10.53%) and Mallory-Weiss syndrome in 12 (4.51%) patients. Dieulafoy lesion was diagnosed in 4 (1.50%) patients and gastric cancer (whose first manifestation was upper gastrointestinal bleeding) was detected in 4 (1.50%) patients too. In 26 (9.77%) patients it was not possible to locate the source of bleeding despite endoscopic examination repeated two or even three times. All patients were prescribed pharmacological treatment by proton pump inhibitors (PPI) given intravenous infusion. Initially omeprazole or pantoprazole were administered in bolus 40–80 mg intravenous, then 8 mg/h in continuous intravenous infusion for 72 hs. Additionally 44 (16%) patients underwent endoscopic treatment in the form of local injection of adrenaline solution (1:10,000) in 22 patients, argon plasma coagulation (APC) in 19 patients and hemoclipping the bleeding vessel in 3 persons. Combined method (endoscopy and pharmacotherapy) was applied in the patients with I or IIA degree bleeding Forrest scale. Hemostasis was achieved in 29 patients.

If initial conservative treatment turned ineffective, rebleeding occurred or when the condition was impossible to be managed by endoscopy or pharmacotherapy, the patients underwent surgery (5 cases – 1.81%). In the group who underwent surgery duodenal ulcer was detected in three patients, the Mallory-Weiss syndrome in one person and gastric lymphoma in one patient. Despite intensive treatment one patient died of gastrointestinal hemorrhage. In the group of patients treated pharmacologically mean duration time of hospitalization was 5.2 ± 1.2 days, in the group on combined treatment (endoscopy and pharmacotherapy) it was 4.4 ± 1.1 days. The difference was not statistically significant though.

DISCUSSION

Duodenal and gastric ulceration are the most frequent causes of non-variceal upper gastrointestinal tract bleeding, in our study it was 12.78% and 51.12% respectively. According to British data almost 50% hemorrhages are due to duodenal and gastric ulcers (8). Worth mentioning is the fact that non-variceal upper gastrointestinal bleeding accounted for as many as 13.88% of all hospital admissions to our clinic. So we can assume that every seventh patient hospitalized in the clinic had non-variceal upper gastrointestinal tract bleeding.

The detection of the bleeding cause failed in 26 patients (9.77%). It might have been due to the fact that the patients were admitted to our clinic after a few days from the onset of bleeding. Thus the regenerative potential of the mucosa lining the gastrointestinal tract made the endoscopic picture of the upper gastrointestinal tract remain unchanged. It concerns the cases of hemorrhagic erosive gastritis mainly where the cause was eliminated after bleeding had developed.

Enormous improvement in the treatment of gastrointestinal tract bleeding has been due to the advent of endoscopic techniques of treatment. The most common among them are heater probe, plasma argon coagulation, injection method and hemoclips. They produce comparable effectiveness (9–15). Our study revealed that the patients with active bleeding (Forrest IA and IB) were qualified for combined endoscopic and pharmacological treatment (16% of all bleeding cases). Pharmacotherapy

alone (without endoscopy) was applied in the patients with Forrest II and III bleeding. The fact of no significant differences in the duration time of hospitalization resulted from different qualification of the patients according to the Forrest scale for pharmacological treatment and for combined pharmacological and endoscopic treatment.

The data gathered suggest explicitly that PPI are not only essential for the healing of mucosal lesions but they also prevent them. Effective inhibition of HCl secretion ensures best possible conditions to achieve hemostasis. Thus PPI treatment is indispensable in every case of non-variceal bleeding (16–24).

Essential improvement has been made recently, i.e. it was found that antibacterial treatment of bleeding peptic ulcers and *Helicobacter pylori* infections eradicates rebleeding almost completely (25). Thus examining all patients with bleeding for *Helicobacter pylori* and treatment of positive persons has become an obligatory standard practice nowadays. Ureasic test should be performed after the bleeding has stopped. During ongoing bleeding a histological test is more accurate (26). In case of ulcerative bleeding or bleeding of other etiology and treatment against *Helicobacter pylori* infection carried out it has to be confirmed that the bacterium has been eradicated.

It has to be emphasized that many bleedings can be avoided if rational rules of non-steroid anti-inflammatory drugs use are strictly observed. Non-steroid anti-inflammatory drugs are among main etiological factors that account for upper gastrointestinal bleeding.

To conclude, non-variceal upper gastrointestinal tract bleedings still remain a significant medical problem. They account for numerous hospitalizations; our study found 13.88% admissions were due to active upper gastrointestinal bleeding. So we can assume that every seventh patient hospitalized in our clinic had non-variceal upper gastrointestinal tract bleeding. The therapy of active upper gastrointestinal bleeding (Forrest IA and IB) was more effective when PPI and endoscopic methods were used concomitantly. However, about 2% patients required surgical treatment when it was impossible to achieve hemostasis by pharmacotherapy and endoscopy or if rebleeding occurred where the conservative treatment had failed.

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SUMMARY

Gastrointestinal bleedings remain a significant clinical problem. They account for 6–7% death rate of all bleeding patients. The retrospective study covered 275 patients hospitalized for non-variceal upper gastrointestinal bleeding. The analysis assessed the causes of bleeding and treatment methods applied. The length of bleeding time from the moment of patient's admission was assessed in patients who underwent endoscopy combined with pharmacotherapy and in those who received pharmacotherapy alone. 275 (13.88%) of all hospitalizations were caused by non-variceal upper

gastrointestinal bleeding. Bleeding was due to duodenal ulcer in 136 (51.12%) cases, gastric ulcer in 34 (12.78%), hemorrhagic erosive gastritis in 28 (10.53%), Mallory-Weiss syndrome in 12 (4.51%), Dieulafoy lesion in 4 (1.50%) and gastric cancer in 4 (1.50%) patients. Forty-four patients (16%) underwent endoscopic treatment and pharmacotherapy, and remaining pharmacotherapy alone. Five patients (1.81%) underwent surgery because initial conservative treatment turned ineffective or rebleeding occurred. Mean duration time of hospitalization in patients treated pharmacologically and in the endoscopy and pharmacotherapy group did not differ statistically significantly. Non-variceal upper gastrointestinal tract bleedings still remain the causes of numerous hospitalizations; the study found 13.88% of all admissions, so every seventh patient hospitalized in the clinic had non-variceal upper gastrointestinal tract bleeding. The therapy of active upper gastrointestinal bleeding (Forrest IA and IB) was more effective when PPI and endoscopic methods were used concomitantly. However, about 2% of patients required surgical treatment when it was impossible to achieve hemostasis by pharmacotherapy and endoscopy or if rebleeding occurred where the conservative treatment had failed.

Własne doświadczenia w leczeniu nieżyłakowych krwawień z górnego odcinka przewodu pokarmowego

Krwawienia z przewodu pokarmowego są nadal istotnym problemem klinicznym. Pozostają przyczyną zgonów 6–10% krwawiących pacjentów. Przeprowadzone badanie miało charakter retrospektywny i dotyczyło 275 pacjentów hospitalizowanych z powodu krwawienia nieżyłakowego z górnego odcinka przewodu pokarmowego. Przeanalizowano przyczyny krwawienia oraz sposób leczenia. Oszacowano czas trwania krwawienia od momentu przyjęcia do szpitala u chorych leczonych tylko farmakologicznie oraz farmakologicznie i endoskopowo. 275 (13,88%) wszystkich hospitalizacji w analizowanym okresie spowodowanych było nieżyłakowym krwawieniem z górnego odcinka przewodu pokarmowego. W 136 przypadkach (51,12%) przyczyną krwawienia było owrzodzenie dwunastnicy, w 34 (12,78%) owrzodzenie żołądka, w 28 (10,53%) nieżyt nadżerkowy żołądka, w 12 (4,51%) zespół Mallory-Weissa, w 4 (1,50%) zmiana Dieulafoy i w 4 (1,50%) nowotwór żołądka. U 44 pacjentów (16%) zastosowano farmakoterapię i leczenie endoskopowe, u pozostałych tylko farmakoterapię. Pięciu chorych (1,81%) wymagało leczenia operacyjnego z powodu nieskutecznego postępowania zachowawczego lub nawrotu krwawienia niemożliwego do opanowania metodami endoskopowymi lub farmakoterapią. Średni czas hospitalizacji w grupach chorych, u których stosowano jedynie farmakoterapię oraz farmakoterapię i leczenie endoskopowe, nie wykazywał różnic istotnych statystycznie. Nieżyłakowe krwawienia z górnego odcinka przewodu pokarmowego są przyczyną licznych hospitalizacji, w naszym materiale odsetek ten wyniósł 13,88%, zatem co siódma hospitalizacja jest spowodowana nieżyłakowym krwawieniem z górnego odcinka przewodu pokarmowego. W czynnych krwawieniach Forrest IA i IB stosowano jednocześnie PPI oraz metody leczenia endoskopowego w celu zwiększenia skuteczności terapii. Około 2% pacjentów wymagało leczenia chirurgicznego z powodu niemożności osiągnięcia hemostazy metodami zachowawczymi lub z powodu nawrotu krwawienia.