

Management of Non-Variceal Upper Gastrointestinal Bleeding – from Theory to Practice

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ABSTRACT The upper gastrointestinal bleeding (UGIB) represents one of the most frequent medical and surgical emergencies. Upper GI endoscopy allows the treatment of the majority of lesions being associated with low transfusion requirement and decreasing of number of hospitalization days. **Aim and method** The aim of our study was to assess the clinical application of the elaborated guidelines for the management of upper GI bleeding in the Clinical County Emergency Hospital of Craiova. We assessed 100 consecutive patients with non-variceal upper gastrointestinal bleeding admitted through the Emergency Department. **Results** Upper GI endoscopy was performed in the first 24 hours in 50 % and as an elective procedure in 36 % of the patients. Therapeutic endoscopy was applied in 13.95% of the patients submitted for upper GI endoscopy Successful endoscopic haemostasis was performed in 85.7 % of cases, with re-bleeding and inefficient haemostasis in 14.3 %. Immediate surgery was necessary in 7 % of cases, 5 % of the patients were operated without previous upper GI endoscopy and 2 % after the failure of endoscopic haemostasis. **Conclusion** Although the algorithms of diagnosis and treatment were clearly designed, the assessment of the patients with non-variceal bleeding is incomplete and incorrect, in the absence of emergency endoscopy departments and dedicated intensive care compartments.

KEY WORDS *upper digestive bleeding, endoscopic haemostasis, Rockal score*

Introduction

The upper gastrointestinal bleeding (UGIB) represents one of the most frequent medical and surgical emergencies. Thus, there are many guidelines for assessment and treatment based on various studies. The development of digestive endoscopy, especially the new haemostatic techniques, lead to improvement of management of these patients. Upper GI endoscopy in UGIB patients allows the treatment of the majority of lesions being associated with low transfusion requirement and decreasing of number of hospitalization days. [1]. A correct diagnosis could be established in approximately 80 % of patients [2], [3]. Re-bleeding and the rate of mortality seems to not be influenced by the correct diagnosis but the transfusion needs and hospitalization period are decreased in patients with active bleeding [2]. There are four independent predictors of active bleeding: fresh blood on naso-gastric tube, hemodynamic instability, low haemoglobin level and increased white blood count [4]. The Rockal score is the most frequent used for the assessment of prognostic in patients with non-variceal upper GI bleeding [5]. Active bleeding from a peptic ulcer in a shocked patient carried an 80% risk of continuing bleeding or of death [6], moreover arterial bleeding has an independent negative prognostic value [7].

Although the management of non-variceal upper gastrointestinal bleeding is clearly established with clinical guidelines of evaluation, diagnosis and treatment, in clinical practice there are contradicting situations of organisational, economical or deontological nature.

Aim and method

The aim of our study was to assess the clinical application of the elaborated guidelines for the management of upper GI bleeding in the Clinical County Emergency Hospital of Craiova. We compared our findings with the guidelines elaborated by British Society of Gastroenterology Endoscopy Committee [3] and ASGE [8]. We assessed 100 consecutive patients with non-variceal upper gastrointestinal bleeding admitted through the Emergency Department. The end points were transfusion needs, hospitalization period, and mortality. The study is retrospective, nonrandomized.

Results

There were 81% of patients admitted in a surgical department and 19 % of patients admitted in a gastroenterological department. Upper GI endoscopy was performed in the first 24 hours in 50 % and as an elective procedure in 36 % of the patients, the rest of 14 % were not examined. Only

patients with active bleeding or major stigmata of bleeding (according to Forrest classification) were treated by endoscopic procedures. Thus, therapeutic endoscopy was applied in 13.95 % of the patients submitted for upper GI endoscopy and consisted of injection of adrenaline 1:10 000 in 2 patients (**Figure 1**), bipolar coagulation, clips 1 patient (**Figure 2**), and combined methods in 9 patients. Successful endoscopic haemostasis was performed in 85.7 % of cases, with re-bleeding and inefficient haemostasis in 14.3 %. Immediate surgery was necessary in 7 % of cases, 5 % of the patients were operated without previous upper GI endoscopy and 2 % after the failure of endoscopic haemostasis.



Figure 1 Gastric ulcer; endoscopic haemostasis using adrenaline injection



Figure 2 Duodenal ulcer, haemostatic clip placed for bleeding control

Medical treatment consisted in the administration of IV proton pump inhibitors (55

%) or H2 blockers (45 %). The patients did not receive somatostatin or analogs. Mean transfusion needs was 1.6 units per patient, with a mean hospitalisation period of 8.6 days. Mortality ensued in 9 % of the cases. The mortality was variable in two groups of patients: 35.71 % in the patients without endoscopy and 5.82 % (5 patients) in the rest of the patients, but it should be mentioned that the higher rate of mortality in patients without endoscopy was derived from those patients that were older (mean age was 71 years old vs. 49 years), unstable, with severe haemorrhage, shock and important co-morbidities. The causes of mortality in the first group was necrotizing oesophagitis (2 cases), gastric ulcer (1 case) and duodenal ulcer (2 cases). In the second group, the causes was uncertain and the patients died before surgery.

Discussions

According to the worldwide used guidelines, in our hospital there are some differences due to the organization, the lack of human and material resources. The endoscopy unit is not available 24 hours / day and there are only few trained endoscopists for therapeutic endoscopy, thus, the majority of patients are admitted in the Surgical Department. Generally, the main recommendation of guidelines were followed, but a lot of contradictions were found. The initial assessment and the stabilisation of the patients are performed in the Emergency Unit. After the initial assessment and stabilization the patient is admitted in the Intensive Care Unit. The endoscopy room is not available 24 hours per day, moreover, during the weekend the endoscopy is not available as well. A recent study has shown that even in 24 hours/day available endoscopy units, patients with non variceal upper GI bleeding admitted on the weekend had higher mortality and lower rates of early endoscopy [9]. The patient should receive IPP intravenously from the admittance but in our hospital due to economical reason patient receive H2 blockers sometimes. The endoscopic procedures were performed according to the guidelines, in the patients with active bleeding or major stigmata. Regarding to adherent clot we chosen to remove the clot and to treat underlying lesion, although the data from literature are controversial. Regarding the blood transfusions, there are some new data which recommend that the use of blood should be very well managed. There are multiple large studies of a so-called immunosuppressive effect of transfused blood leading to increased infection rates and mortality dependent both on dose and on

the age of the stored blood [10]. Changing clinician behavior to reduce inappropriate blood transfusion remains a key target for future transfusion research [11].

Although we confront with a various deficiencies, the mortality is comparable with the literature findings, which varies from 7 to 11 % [3], [12].

Conclusion

Although the algorithms of diagnosis and treatment were clearly designed, the assessment of the patients with non-variceal bleeding is incomplete and incorrect, in the absence of emergency endoscopy departments and dedicated intensive care compartments.

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