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Title: Endoscopic Hemostasis Followed by Preventive Transarterial Embolization in High-Risk Patients with Bleeding Peptic Ulcer: 5-year experience

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Topic:
Abdominal emergency surgery, Vascular emergencies

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Background:
Upper gastrointestinal bleeding (UGIB) due to peptic ulcer is one of the leading causes of death in patients with non-variceal bleeding, resulting in up to 10% mortality. Upper endoscopic hemostasis is a procedure of choice; however, patients at high risk of rebleeding (Forrest IA, IB and IIA) often require additional therapy. The reduction in the rebleeding rate after implementation of preventive TAE has encouraged us to continue applying this method.

Aim:
A prospective analysis of the collected data of the safety and outcomes of preventive TAE after the implementation of the combined endoscopic and TAE hemostasis protocol in high-risk patients with bleeding peptic ulcers.

Methods:
During the period from 2014 to 2018, patients who were referred to our institution with bleeding peptic ulcer classified as type Forrest IA, IB or IIA with the Rockall score ≥5 after endoscopic hemostasis were sorted in two groups prospectively – preventive TAE (PE) group and control group (CG). PE patients underwent flow-reducing left gastric artery or gastroduodenal artery embolization according to the ulcer type. The rebleeding rate, complications, frequency of surgical interventions, transfused packed red blood cells (PRBC), amount of fresh frozen plasma (FFP), and mortality rate were analyzed.

Results:
From 922 patients emergently admitted with UGIB, 738 patients had a bleeding peptic ulcer and 382 of them had a high risk of rebleeding after endoscopic hemostasis. From this cohort, 57 patients underwent preventive embolization (PE) and 325 were allocated to the control group (CG). A significantly lower rebleeding rate and need for surgical intervention were observed in the PE group, 12.3% vs. 15.1% in the CG group; p=0.006, and 8.8% vs. 20.6%, accordingly; p=0.004. Patients that underwent PE required more PRBC, 6 units vs. 3 units in CG; p=0.002 and less FFP, 1 unit vs. 2 units in CG; p=0.0001. A reduction in the mortality rate was observed in the PE group, 5.3% vs. 8.6% in CG; p=0.428.

Conclusion: Preventive TAE is feasible and safe in patients with a bleeding peptic ulcer when the rebleeding risk remains high after endoscopic hemostasis, thus reducing the rebleeding rate and the need for surgical intervention.

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