



Management of duodenal ulcer bleeding resistant to endoscopy: Surgery is dead!

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Abstract

Acute massive duodenal bleeding is one of the most frequent complications of peptic ulcer disease. Endoscopy is the first-line method for diagnosing and treating actively bleeding peptic ulcers because its success rate is high. Of the small group of patients whose bleeding fails to respond to endoscopic therapy, increasingly the majority is referred for embolotherapy. Indeed, advances in catheter-based techniques and newer embolic agents, as well as recognition of the effectiveness of minimally invasive treatment options, have expanded the role of interventional radiology in the management of hemorrhage from peptic ulcers over the past decade. Embolization may be effective for even the most gravely ill patients for whom surgery is not a viable option, even when extravasation is not visualized by angiography. However, it seems that careful selection of the embolic agents according to the bleeding vessel may play a role in a successful outcome. The role of the surgeon in this clinical sphere is dramatically diminishing and will certainly continue to diminish in ensuing years, surgery being typically reserved for patients whose bleeding failed to respond all previous treatments. Such a setting has become extremely rare.

TO THE EDITOR

We read with great interest the recent article by Wang *et al*^[1] published in the September issue of the *World Journal of Gastroenterology* evaluating the efficacy and safety of emergency transcatheter arterial embolization (TAE) for patients with acute massive duodenal ulcer hemorrhage. We have several comments and questions.

Transcatheter embolization is now accepted as the salvage treatment of choice for acute bleeding from gastroduodenal ulcers. Many published studies have confirmed the feasibility of this approach and the high technical and clinical success rates, ranging from 91% to 100% and from 63% to 100%, respectively, in all case-series including more than 10 patients over the last decade^[2,3].

First, we are surprised in the present study that 19 (65.5%) of the 29 patients had no endoscopic hemostasis prior to TAE. In our experience, endoscopic therapy remains the first treatment modality in the management of bleeding peptic ulcers, even in those presenting with massive bleeding. On the other hand, it seems that the authors performed TAE in the gastroduodenal artery territory in 3 patients who did not undergo preliminary endoscopy and for whom angiography was negative. Does it mean that TAE was carried out in these patients without neither endoscopic nor angiographic data? Could the authors clarify this point? Indeed, several pre-

vious studies found that empiric embolization based on endoscopic findings, in the absence of contrast extravasation, was helpful in achieving bleeding control, with no difference according to whether angiography identified the bleeding site^[4,5]. However, accurate endoscopic localization of the bleeding site is a prerequisite to allow empiric embolization for angiographically negative upper gastrointestinal bleeding.

Second, we would like to congratulate the authors on their high clinical success rate of 93% (27 of the 29 patients). However, we are surprised that these results were obtained with the use of sponge particles as the only embolic agent. Although the influence of the type of embolic agent on the clinical outcome is controversial, several authors reported a high rate of bleeding recurrence when gelfoam was used alone^[6,7], whereas the clinical success was relatively high in recent series in which glue was used as the only embolic agent^[8,9]. In addition, two studies demonstrated a statistically significant association between the use of coils as the only embolic agent and greater rebleeding rates^[2,10]. On the other hand, good results were reported with the combination of gelatin sponge and coils^[2,11]. Based on our experience and the literature, we do not recommend the use of coils alone but in combination with gelfoam or glue, when using the sandwich technique in areas with rich collaterals like the gastroduodenal artery territory^[2,10]. It allows a faster and better hemostasis, especially in patients with coagulopathy.

In addition, the normal collateral pathways after a successful embolization should be systematically checked to avoid retrograde filling through anastomoses as the inferior pancreaticoduodenal artery (IPDA) from the superior mesenteric artery in order to maximize results. Indeed, one explanation for good clinical results in this study might be the systematic use of this technique. It may be worthwhile for readers to know the number of patients in whom additional TAE of the IPDA was performed here. Another plausible explanation for high clinical success rate in this study could be the young age of the study population (36 years), without comorbidities. We know that underlying conditions can contribute to a poor outcome.

In conclusion, we agree with the authors about the safety and efficacy of TAE for the treatment of acute hemorrhage from duodenal ulcers. However, angiography should be performed only after failure of endoscopic hemostasis in such a setting. In most cases, embolization obviates the need for surgery and is associated with lower complications and mortality rates than surgical

hemostasis. Although prospective studies are needed to compare these management strategies, the available data suggest that TAE is a good alternative to surgery and could be considered the salvage treatment of choice after failed endoscopic treatment. The role of the surgeon in this clinical sphere will certainly continue to diminish in ensuing years.

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