

Transcatheter Arterial Embolization for Bleeding Peptic Ulcers: Is the Use of Coils Alone the Best Choice?

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Dear Sir,

I read with great interest the article by Van Vugt et al. [1] published recently in *Digestive Surgery* and reporting emergent gastroduodenal artery embolization in patients with upper gastrointestinal bleeding from duodenal peptic ulcers. We have several comments and questions.

Arterial embolization is now accepted as the salvage treatment of choice for acute bleeding from duodenal ulcers despite endoscopic treatment. Many published studies confirm the feasibility of this approach, and the high technical and clinical success rates range from 91 to 100% and from 63 to 100%, respectively, in all case series including more than 20 patients over the last decade [2, 3], even if factors that influence the angiographic outcome are not well documented.

First, we are surprised that in this study 75% of patients had signs of active bleeding upon angiography (i.e. extravasation of contrast medium) whereas catheterization of the superior mesenteric artery seems not to have been performed. In our experience, the extravasation rate is much lower despite systematic selective catheterization of the celiac trunk and the gastroduodenal and superior mesenteric arteries in all cases. Did the authors use pharmaco-

logic agents such as intra-arterial vasodilators during the procedures to increase the probability of finding visible active bleeding? Is it really the 'superior mesenteric artery' instead of 'inferior mesenteric artery' in the embolization technique section of the article? Furthermore, a major limitation of this study is the small number of patients which leads to a high risk of type II error. In particular, no meaningful conclusions can be drawn regarding the sandwich technique ('frontdoor-backdoor principle') for coil occlusion of the gastroduodenal artery used by the authors.

We recently reported our results obtained during nearly 10 years of experience with arterial embolization to treat refractory massive bleeding from gastroduodenal ulcers [4]. We had 60 patients, the largest case series in the literature. Using coils alone to occlude the gastroduodenal artery significantly predicted early rebleeding (within 30 days) by univariate analysis ($p = 0.003$) and by multivariate analysis ($p = 0.022$). We therefore advocate the use of gelatin particles between the proximal and distal coils in the trunk of the gastroduodenal artery.

In conclusion, we do not recommend the use of coils as the only embolic agent

for gastroduodenal artery embolization in patients with upper gastrointestinal bleeding from duodenal peptic ulcers, particularly when the sandwich technique is used. We are concerned that generalizing the practice described by Van Vugt et al. [1] may decrease the clinical success rate of visceral artery embolization.

References

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