



LETTERS TO THE EDITOR

Arterial embolization is the best treatment for pancreaticojejunal anastomotic bleeding after pancreatoduodenectomy

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TO THE EDITOR

We read with great interest the recent article by Liu *et al*^[1] published in the April issue of the “*World Journal of Gastroenterology*” comparing the results of transcatheter arterial embolization and open surgical hemostasis in the treatment of patients with massive pancreaticojejunal anastomotic hemorrhage after pancreatoduodenectomy. We have several comments. Transcatheter embolization is now accepted as the salvage treatment of choice for acute bleeding from the upper gastrointestinal tract. 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 this study that 6 (35.3%) of the 17 patients had no angiography prior to additional open surgical hemostasis. In our experience, arteriography plays the primary role in the initial investigation of active gastrointestinal bleeding after pancreatoduodenectomy and should be the first step of investigative procedure in such situations, even in hemodynamically unstable patients. It was reported that the gastroduodenal artery stump is one of the main sources of pancreaticojejunal anastomotic hemorrhage after pancreatoduodenectomy^[3], as confirmed in this study. Selective angiography of the celiac trunk and common hepatic artery allows in the majority of cases to detect extravasation of contrast medium. However, it is usually difficult to catheterize the gastroduodenal artery stump. Then, we think that coil embolization of the common or proper hepatic artery on either side of the bleeding point (“sandwich technique”) is preferable to prevent retrograde filling^[4]. It seems unlikely that this technique was used by the authors, probably explaining recurrent bleeding in 2 (20%) of the 10 patients treated with transcatheter arterial embolization. Liver failure rarely occurs when hepatic artery embolization is achieved with this technique. However, verification of portal venous flow and the absence of underlying liver disease prior to embolization are required. When

Abstract

Massive pancreaticojejunal anastomotic bleeding, mainly from the gastroduodenal stump, is one of the most common complications of pancreatoduodenectomy. Selective angiography should be systematically the first step of investigative procedure in such situations. Pharmacocoarteriography may be used if the bleeding point is not spontaneously identified, and allows safe and effective treatment with transcatheter arterial embolization compared to blind open surgical hemostasis. Coil embolization of the common or proper hepatic artery on either side of the bleeding point with “sandwich technique” is then the preferred technique to prevent retrograde filling. Surgery should be performed only as a last resort.

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the celiac trunk and common hepatic arteriograms are negative, selective catheterization of the superior mesenteric artery must be performed routinely to increase the probability of visualizing active bleeding, because the inferior pancreaticoduodenal artery sometimes supplies the pancreaticojejunal anastomosis. Furthermore, intraarterial anticoagulants, vasodilators, or fibrinolytic agents may be used during angiography to directly elicit contrast medium extravasation, thereby significantly facilitating embolization. In conclusion, we agree with the authors about the safety and efficacy of transcatheter arterial embolization for the treatment of acute hemorrhage after pancreatoduodenectomy. Angiography should be performed first in such situations. In most cases, embolization obviates the need for surgery and is associated with lower complications and mortality rates than open surgical hemostasis.

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