

Editorial

Post-Pancreatectomy Hemorrhage: Is Endoscopy Really Useful?

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Lorenzo Dioscoridi, MD, PhDDigestive and Interventional Endoscopy Unit, ASST GOM Niguarda, Milan, Italy; E-mail: dioscoridi.lorenzo@virgilio.it**Article information****Received:** February 27th, 2023; **Revised:** March 24th, 2023; **Accepted:** April 4th, 2023; **Published:** April 10th, 2023**Cite this article**Dioscoridi L. Post-pancreatectomy hemorrhage: Is endoscopy really useful? *Pancreas Open J.* 2023; 6(1): e1-e2. doi: [10.17140/POJ-6-e014](https://doi.org/10.17140/POJ-6-e014)**ABSTRACT**

Post-pancreatectomy hemorrhage is a frequent adverse event with high morbidity and mortality. Redo-surgery, interventional radiology and operative endoscopy are involved in its management. Operative endoscopy is gaining efficacy in the setting of post-pancreatectomy hemorrhage. However, its role in post-operative bleeding is still not well-defined. On the base of the present published data, endoscopy has a strong indication to diagnosis but scant efficiency to treat post-pancreatectomy hemorrhage.

Keywords

Post-pancreatectomy hemorrhage; Duodenopancreatectomy; Post-operative bleeding.

INTRODUCTION

Post-pancreatectomy hemorrhage is a frequent adverse event with high morbidity and mortality (3-60%).¹ Most bleeding originated from gastro-duodenal artery stump (29%).^{1,2}

Multidisciplinary approach is involved in the management of this complication including redo surgery, interventional radiology and operative endoscopy.^{1,3}

It is crucial to consider that this adverse event can be associated with partial/complete dehiscence of pancreatico-jejunal anastomosis as cause or consequence of bleeding (because it can lead pancreatic juice to damage surrounding vessels or consequence as a result the blood can overtend the bilio-pancreatic jejunal loop).

Assuming that, abdominal computerized tomography (CT) scan is mandatory prior to every kind of treatment to assess the integrity of the anastomoses, eventual active blushing and/or emoperitoneum.⁴ Mean sensitivity was assessed at 56-67%.²

If it is true that endoscopy can be both diagnostic and therapeutic in more and more surgical complications, it should be avoided to manage bleeding in this setting if any sign of anastomotic dehiscence is present. In this case, the most common cause of bleeding is extraluminal bleeding and endoscopy can only worsen the situation by CO₂/air inflation, washing and pushing the

instruments. Moreover, the entity of bleeding does not lead to add any even diagnostic information on the source.

Considering the literature, hemorrhage source was not found in 31% patients during endoscopy.⁴

Operative endoscopy can play an efficient role in case of bleeding from the gastro-jejunal anastomosis and can diagnose if the bleeding comes from the gastro-jejunal anastomosis or from the bilio-pancreatic jejunal loop. However, literature data reported a 48% success rate and 24% mortality.²

On the other hand, endoscopy seems to be more effective in delayed bleeding with a source control success in 85.7% of cases.⁵

The role of interventional radiology should be taken in consistent account especially if active blushing is seen at the previous abdominal CT scan.⁶ According to the available literature, it can be considered the miniminvasive treatment of choice in this case. If it fails, considering endoscopy a valid alternative can be a huge mistake in terms of clinical outcomes and timing to redo-surgery. We cannot consider the two methods-endoscopy and radiology-interchangeable for post-pancreatectomy bleeding because several hemorrhages cannot be managed by endoscopy in this cluster of patients.

Redo surgery has still a major role for this complication despite of its high morbidity and mortality, acceptable if we con-

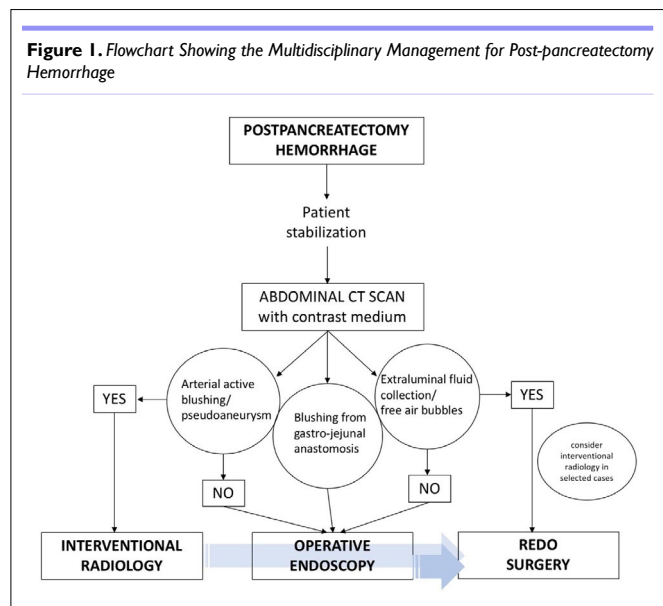
sider the low percentage of recurrences.²⁻⁴ Furthermore, surgery should be considered as rescue therapy in case of endoscopic or radiological failure and in not hemodynamically stable patients (Figure 1).¹

are nor extraluminal blood collection not arterial active bleeding from pancreatico-jejunal anastomosis.

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Figure 1. Flowchart Showing the Multidisciplinary Management for Post-pancreatectomy Hemorrhage



CONCLUSION

In conclusion, as resumed in our flowchart, post-pancreatectomy hemorrhage requires efficient and rapid treatments. Preliminary abdominal CT scan is mandatory to guide the correct management; interventional radiology must be considered the most efficient miniminvasive treatment; redo surgery has still the main role to save patients' lives; endoscopy has a diagnostic role and can be reserved to treat the bleeding from gastro-jejunal anastomosis and has only a minor role in other kinds of hemorrhage, only if there