

Extensive duodenal ischemia after endoscopic hemostatic therapy

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CASE REPORT

The present case concerns a 75-year-old patient with upper gastrointestinal bleeding due to duodenal peptic ulcer that was subjected to endoscopic hemostasis with injection of sclerosing and vasoconstrictor agents three times, in two different occasions.

On the first upper endoscopy, a bleeding giant duodenal ulcer with a bleeding visible vessel was observed, and hemostasis was attempted by polidocanol injection. After relapse of the bleeding, two days later, a second endoscopic control was attempted with adrenaline and polidocanol injection. After the attempts to endoscopically control the bleeding, the patient relapsed again. After massive protocol transfusion, the patient was still actively bleeding and presented hemodynamic failure. At this point, no endoscopic option was available and surgical exploration was needed.

The surgical team opted for median laparotomy with subtotal gastrectomy as a pre-operative plan. Intra-operatively during the abdominal exploration, extensive and acute duodenal well-defined ischemia and perforation was found. The 4th portion of the duodenum showed signs of acute necrosis with pearly white appearance and the transition to the first loop of jejunum was abrupt, suggesting a vascular cause for the ischemia, probably caused by iatrogenic ligation of the gastroduodenal artery (Figure 1).

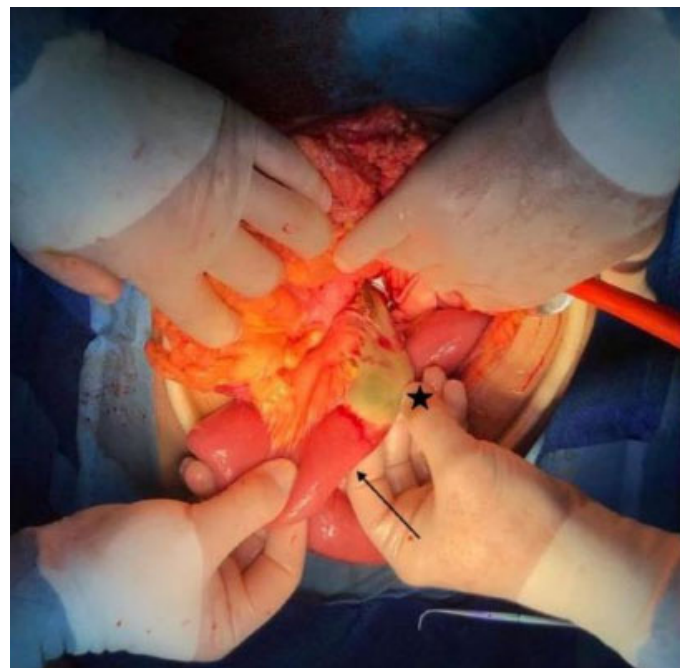


Figure 1: The operative field with the exposed 4th portion of the duodenum (indicated by the star), with signs of acute necrosis (pearly white and paper appearance) and the abrupt transition to the first loop of jejunum (indicated by the thin arrow), that shows no sign of vascular compromise.

DISCUSSION

Upper gastrointestinal bleeding is a very common condition with significant morbidity and mortality, and in 50% of all cases the bleeding is caused by peptic ulcer disease [1]. The first line of treatment usually consists in endoscopic hemostatic procedures that are very effective and have a small rate of complications [2]. Despite uncommon, complications such as perforation, infection or even ischemia can become life-threatening and require emergency surgery [3].

Confronted with this new finding, the team had to change the plan and perform a duodenal and partial pancreatic resection. Considering the unbalanced hemodynamic status of the patient, a damage control approach was chosen with posterior gastrointestinal reconstruction 48 hours later after hemodynamic balancing in the intensive care unit.

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The reconstruction took place in a single intervention with the completion of the duodenopancreatectomy by performing a cholecystectomy and the creation of the anastomosis to re-establish gastrointestinal continuity: coledocojejunal, gastrojejunal, and pancreatojejunal.

After a month's recovery, the patient was discharged to a physical rehabilitation facility and later discharged home. Due to the partial pancreatectomy, the patient developed diabetes and required the intervention of the endocrinology team for its management with the administration of insulin. Overall, the result for the patient had low impact in his quality of life, and after six months he had returned to his daily life without limitation.

As a complication of endoscopic procedure, vascular ligation with ischemia is very rare. Despite being mentioned as a possible complication to endoscopic bleeding control, it is mentioned in the literature only in case reports and its prevalence is not widely known. To our knowledge there are only a handful of cases described and most of them ended with the death of the patient. Thus, our case is relevant because it shows a case of success: a very rare disease that was diagnosed and treated in time.

CONCLUSION

In this case, the treatment was prompt because the patient presented with hemorrhagic shock, but a rare complication with a milder presentation can be overlooked leading to a later diagnosis and possibly more morbidity and mortality.

Keywords: Duodenal ischemia, Endoscopy, Gastrointestinal bleeding, Surgery

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Author Contributions

Cristina Silva – Conception of the work, Design of the work, Acquisition of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Cristina Monteiro – Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Carolina Matos – Interpretation of data, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

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Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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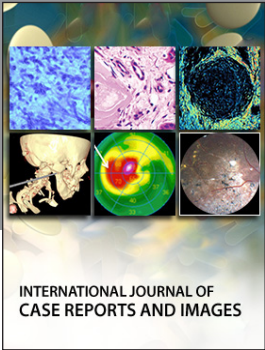
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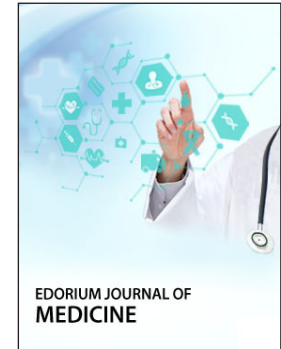


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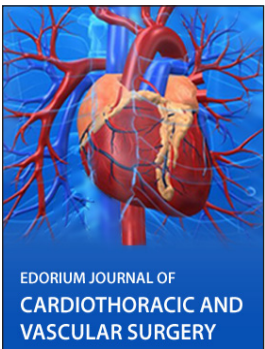


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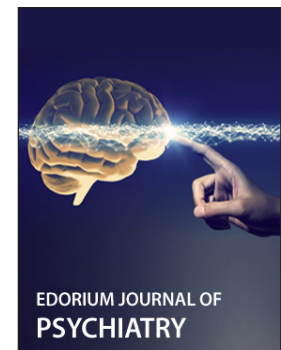
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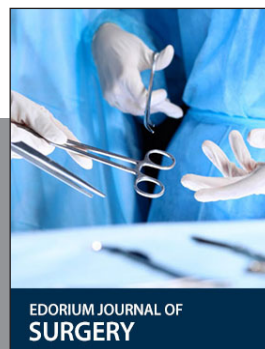
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