

# Emergency Pancreaticoduodenectomy for Exsanguinating Ampullary Malignancy

Ravikumar Subbarayan<sup>1</sup>, Santhosh Anand<sup>2</sup>, Sathishkumar Selvaraj<sup>3</sup>

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## CASE HISTORY

A 69-year-old male presented with hematemesis, melena, and abdominal pain for 2 days. He did not have fever or jaundice. General systemic and abdominal examination was essentially normal. Blood investigations were normal except for marginally decreased hemoglobin (10 g/dL). Ultrasound abdomen was normal. Endoscopy showed bulky ampulla with mild ooze from the surface. Computerized tomography angiogram showed mucosal thickening in medial wall of second part of duodenum. Visceral arteries were normal with no evidence pseudoaneurysms.

With working diagnosis of periampullary growth, patient was managed conservatively to control bleed and evaluate further. However, after 12 hours, patient dramatically had significant hematochezia causing hemodynamic instability. He was promptly resuscitated and repeat endoscopy was done in operating room. At this time, there was pulsatile bleed from the ampullary region. In view of life-threatening bleeding, he was taken up for emergency surgery.

He underwent pancreaticoduodenectomy (PD). To control bleeding, reverse PD (controlling gastroduodenal and pancreaticoduodenal arteries initially itself) was done. Pancreaticojejunostomy (duct to mucosa) was done over a stent due to narrow main pancreatic duct (<3 mm) and soft pancreas. Perioperative octreotide was administered. Blood products were transfused in accordance with massive transfusion protocol.

Patient was extubated after transient elective ventilation. He was stepped down once hemodynamics improved. Enteral feeding was started on postoperative day (POD) 2. Oral liquids were started on POD 3 and gradually progressed to soft diet on POD 5. Ensuring no pancreatic leak, drains were removed on POD 6. He was discharged on POD 7. Histopathologic examination of specimen revealed well-differentiated adenocarcinoma in periampullary region (T2, N0).

## DISCUSSION

### What is Special about This Case?

Emergency PD (EPD) is mainly done for pancreaticoduodenal trauma with mortality rate up to 40%.<sup>1</sup> Nontrauma EPD is done for conditions such as ruptured aneurysms, bleeding pseudocysts, major duodenal perforation, or postpancreatectomy hemorrhage. An extensive literature search revealed only 30 reported cases of EPD for nontrauma bleeding lesions.<sup>2</sup> Ampullary malignancy with exsanguinating bleed requiring EPD is not reported.

### What are the Treatment Options Available and Why Surgery was Done in Present Case?

Upper digestive tract bleeding, including duodenal or pancreatic, can be managed mostly by endoscopic or radiologic procedures.

<sup>1</sup>Department of Surgical Gastroenterology, Kauvery Hospital, Salem, Tamil Nadu, India

<sup>2</sup>Department of Surgical Gastroenterology, Dharan Multispeciality Hospital, Chennai, Tamil Nadu, India

<sup>3</sup>Department of Anesthesia and Critical Care, Kauvery Hospital, Salem, Tamil Nadu, India

**Corresponding Author:** Santhosh Anand, Department of Surgical Gastroenterology, Dharan Multispeciality Hospital, Chennai, Tamil Nadu, India, Phone: +91 9486116981, e-mail: kssa.5149@gmail.com

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Bleeding from ampullary region render endovascular approaches risky and inadequate. Angioembolization for periampullary tumor bleeding is difficult and insufficient due to multiple feeders from gastroduodenal artery and superior mesenteric artery. These procedures are used for temporary stabilizing measures before definitive surgery for neoplasia.<sup>3</sup> EPD in massive or recurrent tumoral bleeding is a definitive therapeutic procedure as it allows rapid hemostasis and removal of lesion simultaneously.<sup>4</sup> Our patient had massive bleed from ampullary malignancy.

### What are the Surgeries that Could be Done in This Scenario?

Surgical options in bleeding ampulla are limited. Ampullectomy in a suspicious malignancy may be oncologically inadequate and has significant morbidities and complications. EPD is the surgery of choice in selected emergency bleeding nontrauma situations, provided that the procedure is performed by a surgeon with high-level experience in pancreatic resections in appropriate setup.<sup>2</sup> Since he presented at early stage of malignancy (biopsy – well-differentiated adenocarcinoma T2 N0), surgery alone provided the definitive management.

### Can This be Done Routinely?

It is insisted that not all bleeding periampullary malignancies should be taken for EPD. This was done in a case for life-threatening bleeding detected early and approached in a multidisciplinary manner.

## CONCLUSION

Exsanguinating periampullary malignancy is very rare. Less invasive approaches including interventional and endoscopic approaches

are unsafe and at times futile. EPD may be a definitive life-saving surgical procedure allowing for rapid control of bleeding and is a definitive oncologic procedure in selected cases.

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