



Acute pancreatitis following endoscopic ampullary biopsy: A case report

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Abstract

BACKGROUND

Endoscopic biopsy is mandatory for the diagnosis of malignant and premalignant ampullary tumours. The commonly reported inadvertent complications following routine mucosal biopsy include perforation and haemorrhage. Acute pancreatitis is an extremely rare complication following this procedure.

CASE SUMMARY

This report details the case of a 59-year-old man who underwent biopsy of the ampulla for a suspected periampullary tumour. Following the procedure, the patient presented with symptoms of acute pancreatitis which was substantiated by laboratory and radiological investigations. He was conservatively managed and discharged following complete resolution of symptoms.

CONCLUSION

This case report serves to highlight the importance of this potential complication following routine endoscopic biopsy of the ampulla.

Key Words: Acute pancreatitis; Endoscopy; Ampullary biopsy; Ampullary lesions; Ampulla of Vater; Case report

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Core Tip: Gastrointestinal endoscopic procedures are relatively safe and are being routinely performed with the advent of minimally invasive procedures. Acute pancreatitis is an extremely uncommon complication following endoscopic ampullary biopsy. It is important for endoscopists to be mindful of this untoward complication with appropriate post-procedure monitoring and support.

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INTRODUCTION

Endoscopic biopsy is recommended for the evaluation of ampullary adenomas, ampullary tumours, and more recently, immunohistological staining for autoimmune pancreatitis[1,2]. The commonly encountered complications following this procedure include bleeding, infection, and perforation. Acute pancreatitis is an extremely uncommon complication with a high rate of morbidity and mortality. It can be attributed to the mucosal edema or intraductal hematoma caused by the ampullary biopsy[6]. Although rare, endoscopists are to be aware of this complication and patients need to be closely monitored following the procedure.

CASE PRESENTATION

Chief complaints

A 59-year-old man presented to our tertiary centre with symptoms of dyspepsia for which ultrasound of the abdomen was done and it showed dilatation of the common bile duct (10 mm). For further evaluation, liver function test was done, which was reported as normal. Contrast-enhanced computed tomography (CT) of the abdomen was then performed, which revealed dilatation of the common bile duct and pancreatic duct (3.5 mm). Side-viewing duodenoscopy (Olympus TJF-150 Video Duodenoscope; Olympus, Tokyo, Japan) was done, which revealed an ulcerated papilla from which a biopsy was taken (Figure 1). The sampling was done with Jumbo biopsy forceps without spike. Haemostasis was confirmed and the procedure was uneventful. Two hours later, the patient presented with acute onset upper abdominal pain and profuse sweating which developed 30 min following his meal.

History of present illness

The pain was localised to the epigastrium and was severe in nature (8 on the Visual Analogue Scale) with radiation to the back. There was no history of vomiting.

History of past illness

The patient was not a known diabetic or hypertensive.

Personal and family history

The patient did not have any relevant family history. He was a non-alcoholic and non-smoker.

Physical examination

At the Emergency Room, the patient's heart rate was 110 per minute and blood pressure was 140/80 mm of Hg. On examination of the abdomen, there was severe epigastric tenderness with guarding. The rest of the abdominal quadrants were non-tender with normal bowel sounds.

Laboratory examinations

The patient's blood work-up pre- and post-procedure is shown in Table 1.

Imaging examinations

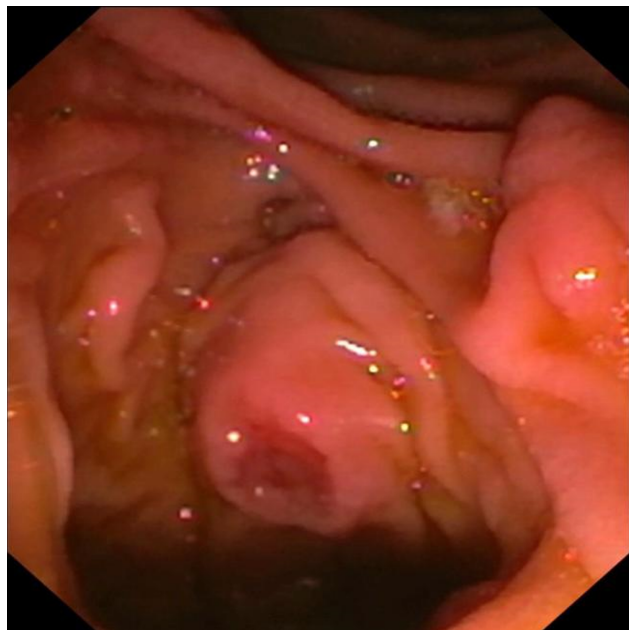
Computed tomography of the abdomen showed features consistent with acute pancreatitis such as pancreatic enlargement and diffuse peri-pancreatic fat stranding (Figure 2).

FINAL DIAGNOSIS

The patient was further evaluated to determine other attributing factors causing pancreatitis such as gallstone disease, alcohol, or any other precipitating drugs. After ruling these out, endoscopic biopsy of the ampulla was attributed as the

Table 1 The patient's blood work-up pre- and post-procedure		
Blood investigation	Pre-procedure	Post-procedure
WBC count	7500/mm ³	13000/mm ³
AST	35 IU/L	65 IU/L
ALT	40 IU/L	82 IU/L
Serum amylase	50 IU/L	1500 IU/L
Serum lipase	110 IU/L	800 IU/L

AST: Aminotransferase; ALT: Alanine aminotransferase; WBC: White blood cell.



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Figure 1 Image as visualized through a side-viewing duodenoscope showing an ulcerated papilla from which a biopsy was taken.



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Figure 2 Computed tomography of the abdomen showing features consistent with acute pancreatitis such as pancreatic enlargement and diffuse peri-pancreatic fat stranding.

cause.

TREATMENT

The patient was admitted and kept nil per oral. He was managed conservatively with intravenous fluids, antibiotics, and analgesics. His general condition improved and he was gradually initiated on diet. He achieved complete resolution of symptoms and was discharged 48 h later.

OUTCOME AND FOLLOW-UP

Histopathological examination of the tissues samples showed an adenomatous polyp with moderate dysplasia. The patient remained asymptomatic over a follow-up period of 6 mo.

DISCUSSION

Upper gastrointestinal endoscopy is central for the diagnosis of a wide array of tumours arising at the ampulla of Vater including neoplasms such as neuroendocrine tumours, adenomas, and adenocarcinomas as well as non-neoplastic lesions such as lipomas, lymphangiomas, fibromas, adenomyomas, and hamartomas[3-5]. Acute pancreatitis, a commonly encountered complication following endoscopic retrograde cholangiopancreatography, is extremely rare following non-thermal endoscopic biopsy of the ampulla of Vater without previous cannulation. Morales *et al*[6], who reported the first such case in 1994, propositioned mucosal edema or intraductal hematoma with a resultant increase in pressure in the pancreatic duct as the cause. Ishida *et al*[7] presented a similar case of acute pancreatitis following endoscopic biopsy of the ampulla of Vater in 2013, where the cause was ascribed to the small ampulla of the patient. Confirmation of hemostasis at the end of the procedure is important in order to prevent the inadvertent development of acute pancreatitis as a result of intramural hematoma. Another contributing factor is the ampullary edema as a result of the biopsy forceps. Ampullary biopsy with side-viewing endoscopy is pivotal for the diagnosis of periampullary carcinoma. However, the yield of ampullary surface biopsies is limited and there arises the need for deeper biopsies which can further contribute to ampullary edema. In a case of acute pancreatitis following endoscopic ampullary biopsy reported by Michopoulos *et al* [8], they directed the biopsies to the area around the orifice. It is recommended to avoid biopsying the normal ampulla and to biopsy some distance from the mouth of the pancreatic duct to prevent acute pancreatitis; however, bleeding and edema can obscure vision, proving this to be difficult. There are very limited reported cases of acute pancreatitis following endoscopic biopsies from the ampulla of Vater. Most of these patients have had an uneventful recovery. Skelton *et al*[9] reported a case of severe necrotising pancreatitis following ampullary biopsy where the patient required multiple necrosectomies and two CT-guided drains. In our case, the patient was discharged 48 h post-procedure without any untoward outcomes.

CONCLUSION

This case reports serves to enlighten endoscopists regarding the potential complication of acute pancreatitis following endoscopic biopsy of the ampulla, to educate patients regarding this complication, and to closely monitor them following the procedure.

FOOTNOTES

Author contributions: George NM, Rajesh NA, and Chitrambalam TG contributed equally to this work; George NM assisted in patient care and wrote the manuscript, Rajesh NA and Chitrambalam TG assisted in data collection and manuscript revision; all authors have read and approved the final manuscript.

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