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Case report of acute pancreatitis following endoscopic ampullary biopsy

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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 biopsies 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 male who underwent biopsy of the ampulla for suspected periampullary tumour. Following the procedure, the patient presented with symptoms of acute pancreatitis which was substantiated with 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.

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 gentleman, known hypertensive presented to our tertiary centre with symptoms of dyspepsia for which ultrasound abdomen was done and it showed dilatation of the common bile duct (10mm). For further evaluation liver functions test were done which was reported as normal following contrast CT of the abdomen was proceeded which revealed dilatation of the common bile duct and pancreatic duct (3.5mm). Side viewing scope (Olympus TJF-150 Video Duodenoscope; Olympus, Tokyo, Japan) was done which revealed ulcerated papilla from which biopsy was taken (Figure 1). The sampling was done with a Jumbo biopsy forceps without spike. Haemostasis was confirmed and the procedure was uneventful. Two hours later, patient presented to us with acute onset upper abdominal pain and profuse sweating which developed thirty minutes following his meal.

History of present illness

The pain was localised to the epigastrium and was severe in nature (Eight 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, his 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. Rest of the abdominal quadrants were non tender with normal bowel sounds.

Laboratory examinations

The patient's blood work up pre and post procedure was as tabulated below.

Blood Investigation

Pre-Procedure

Post-Procedure

WBC Counts

7,500/mm^3

13,000/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

Imaging examinations

Computed Tomography scan 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 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 adenomatous polyp with moderate dysplasia. The patient remained asymptomatic over a follow up period of six months.

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, adenocarcinomas as well as non-neoplastic lesions such as lipomas, lymphangiomas, fibromas, adenomyomas and hamartomas. [3, 4, 5] Acute pancreatitis, while a commonly encountered complication following endoscopic retrograde cholangiopancreatography, it is extremely rare following non-thermal

endoscopic biopsy of the ampulla of Vater without previous cannulation. Morales TG *et al*, who reported the first such case in 1994, propositioned that mucosal edema or intraductal hematoma with resultant increase in pressure in the pancreatic duct as the cause. [6] Ishida *et al* 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. [7] 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. Howevere, 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*, they directed the biopsies to the area around the orifice. [8] It is recommended to avoid biopsying the normal ampulla and to biopsy some distance from the mouth of 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* reported a case of severe necrotising pancreatitis following ampullary biopsy where the patient required multiple necrosectomies and two Computed Tomography (CT) guided drains. [9] 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 and to educate patients regarding this complication and to closely monitor them following the procedure.

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