



# A RARE CASE REPORT OF 60 YEAR OLD MALE WITH ADENOCARCINOMA OF AMPULLA OF VATER AND DUODENUM

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## Abstract

Ampullary carcinoma is a malignant tumor arising in ampulla of Vater which is the small opening of the common bile duct in the duodenum and patients with these tumors have been reported to have a relatively favorable prognosis after Whipple's surgical resection. It is very rare to have primary adenocarcinoma of the ampulla of Vater. On histology, the most common type of ampullary adenocarcinoma is well differentiated. Here, we present a rare case of 60 years old male patient diagnosed with well differentiated adenocarcinoma of Ampulla of Vater because of its rarity.

**Keywords:** Whipple's surgical resection, adenocarcinoma, duodenum, Ampulla of the Vater

## Introduction

Ampullary carcinoma is a malignant tumor arising in ampulla of Vater which is the small opening of the common bile duct in the duodenum and patients with these tumors have been reported to have a relatively favorable prognosis after surgical resection [1]. Ampullary carcinomas (AC) are rare entities, accounting for only 0.2% of gastrointestinal cancers and approximately 7% of all periampullary cancers. The most common type of Ampullary carcinoma is Adenocarcinoma but, the histology differs among the subtypes such as papillary, adenosquamous, mucinous, and adenocarcinomas [2] Here, we present a rare case of 60 years old male patient diagnosed with adenocarcinoma of the ampulla of Vater. We report this case because of its rarity.

## Case Presentation

60 years old male patient presented to the outpatient department of Dhiraj general Hospital, SBKSMIRC, Waghodia, Gujarat with complaints of abdominal pain which had been insidious in onset and gradually progressive in nature, yellowish discolouration of sclera for 10 days, itching and clay coloured stool for a week. He also had history of smoking and alcohol addictions for more than 38 years. Patient had history of ERCP-CBD Stenting 1 month back. On general examination patient's vitals were stable. The CT findings are suggestive of dilated common bile duct (CBD) and dilated right and left hepatic ducts along with dilated IHBR (Intrahepatic biliary radicles). There is abrupt tapering at distal end of CBD with subtle soft tissue fullness suggestive of neoplastic lesion causing stricture and obstructive biliopathy. Because of the suspicion of neoplastic lesion, patient underwent Whipple's surgery and the resected specimen was sent to the histopathology laboratory. We received specimen in 2 containers. Container A had a specimen of pylorus sparing pancreaticoduodenectomy (Whipple's resection). It comprises of pancreas measuring 8x5x3cm, duodenum measuring 21x4cm, gall bladder measuring 6x3.5x2.5cm, common bile duct measuring 10 cm and detached part of stomach measuring 3.5x2.5cm [Photograph 1]. Although there are several approaches in sectioning the pancreatic head bivalving is the most commonly used method as it allows for assessment of the relation of tumor with the both common bile duct and pancreatic duct and for proper evaluation and documentation of ampullary tumors. We also followed the same method for grossing of the specimen. We had bivalved the pancreatic head by placing the probes in the common bile duct and pancreatic duct to the ampulla. On cut opening of duodenum, fecal material came out, inner surface had rugae. Approximately 5 ml of green colored bile came out from gall bladder. A small lesion was seen within 2 cm of epicenter of ampulla of Vater measuring 1.2x0.5cm.

On cut section, solid greyish white area was seen. There were no areas of hemorrhage and necrosis. Tumor was 4.3cm from proximal duodenal resection margin, 16cm from distal duodenal resection margin, 3 cm from superior mesenteric vein, 3 cm from pancreatic resection margin and 1.6 cm from superior margin (closest margin). Various sections were taken from the specimen and processed [3-6]. The microscopic examination was performed by two pathologists. Multiple sections were taken from specimen and the sections from the tumor area showed glands arranged in back to back pattern with minimal stroma in between and glandular cells with loss of nuclear polarity. Individual tumor cells show nuclear pleomorphism, high N: C ratio and hyperchromatism. Few intact glands with basal nuclear polarity were also seen. At places, abnormal mitosis was seen. Final diagnosis was given as well differentiated adenocarcinoma of Ampulla of Vater and duodenum. All the margins are negative for invasive carcinoma with no lymphovascular or perineural invasion and Stage IIIA - pT2N1Mx disease. [Photograph 2, 3, 4, 5, 6]

## Discussion

Ampullary Carcinoma (AC) is a malignant lesion which arises in the Ampulla of Vater (AV). AV is a small aperture in the initial segment of small intestine that is also known as the duodenum. The basic function of AV is to transport pancreatic and bile duct fluids into the intestines [7]. It is very rare to have primary adenocarcinoma of the ampulla of Vater. On histology, the most common type of ampullary adenocarcinomas are well differentiated [8]. Ampullary carcinomas are thought to arise from the glandular epithelium of the ampulla of Vater [9]. It has been suggested that molecular biologically ampullary carcinoma is different from bile duct and pancreatic carcinomas, whereas that share the same molecular biological characteristics with duodenal carcinomas [1].

Ampullary Carcinoma can present with various signs and symptoms. The most common clinical features are Jaundice with yellowish skin and eyes, clay-colored stools, pain in the abdomen, malaise, rectal bleeding, nausea, vomiting, and weight loss [10]. Our patient also presented with abdominal pain, yellowish discoloration of sclera, itching and clay coloured stool for 7 days. All these features were favoring diagnosis of obstructive jaundice which was because of obstruction caused by ampullary carcinoma. The cause of AC is unknown, but it is hypothesized that abnormal cell growth creates lumps, masses, and tumors.

For the diagnosis various diagnostic methods are available e.g. endoscopy, endoscopic ultrasound, abdominal ultrasonography, CT, MRI. We can also use PET scan to detect the metastatic foci for staging of the tumor. Whipple's procedure is the most commonly used surgical modality for the management of ampullary carcinoma. It is also known as Pancreaticoduodenectomy. In this surgery the tumor is removed from the affected part of the AV and the surrounding area [11]. The patient's postoperative survival increases by 10-20% following the Whipple resection [12]. Detection of the ampullary carcinoma timely and final diagnosis may help to improve the prognosis and influence survival.

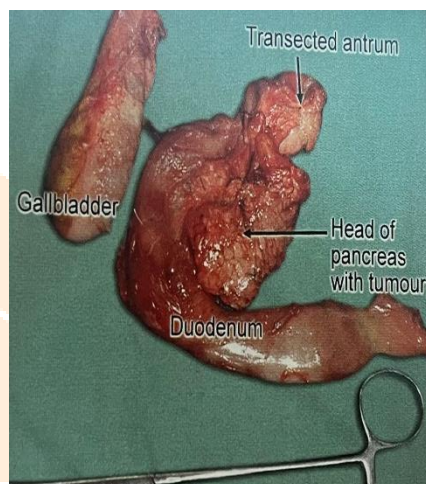
### Conclusions

Ampullary carcinoma is very rare malignant lesion and its prognosis is also poor if not diagnosed early. But with the help of Whipple's surgical procedure, we can treat the patients effectively and without complications. Histopathological examination is the gold standard test for final diagnosis.

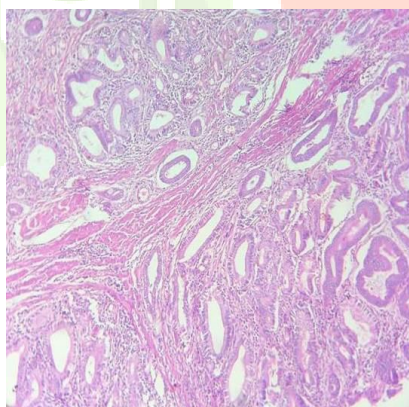
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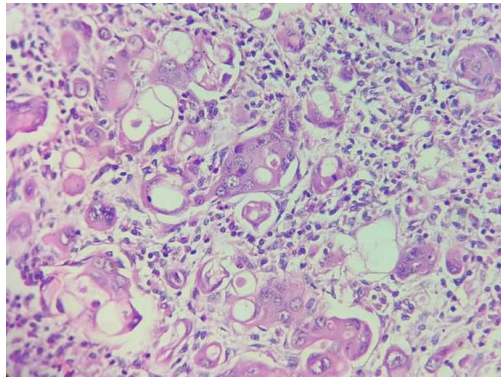
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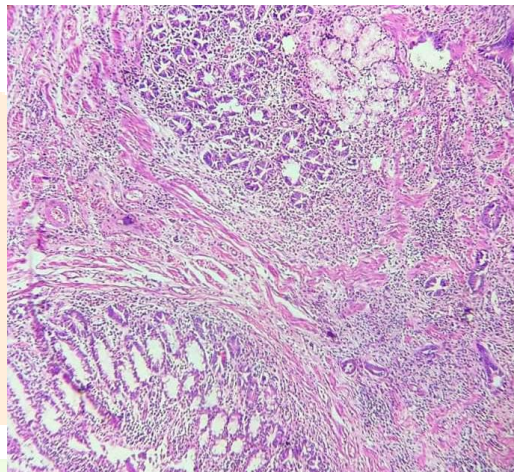
Photograph 1 showed the gross specimen of Pancreaticoduodenectomy



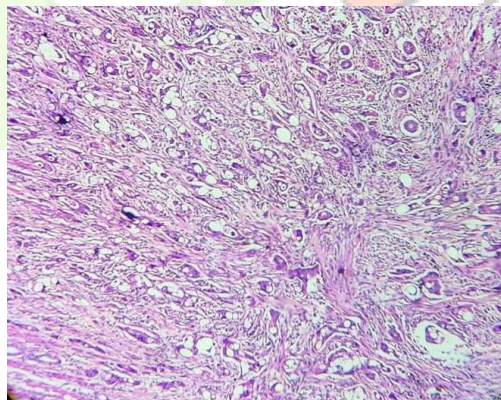
Photograph 2 showed tumor with common bile duct, pancreas and duodenum [H&E stain,10 X]



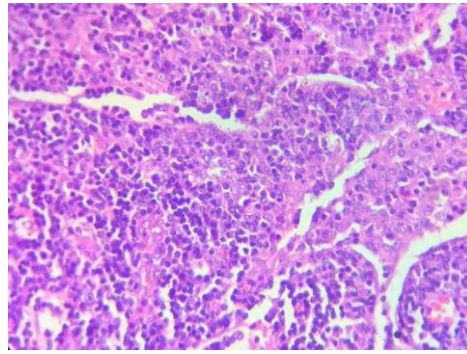
Photograph 3 showed tumor cells with anaplastic features [H&E stain,40 X]



Photograph 4 showed common bile duct and duodenum with infiltration of tumor [H&E stain,10X]



Photograph 5 showed tumor cells in full thickness duodenum [H&E stain,10X]



Photograph 6 showed lymph node of ducto-pancreatic junction with tumor invasion [H&E stain, 40X]

