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(CASE REPORT)

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Rare cause of jaundice- Ampullary tumors

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Abstract

Ampullary tumors are a rare but important cause of obstructive jaundice, arising from the ampulla of Vater at the junction of the common bile and pancreatic ducts. These lesions, while often benign, may harbor premalignant or malignant potential and are commonly associated with hereditary polyposis syndromes such as familial adenomatous polyposis. We present the case of an 84-year-old female with a history of breast cancer and seizures who was incidentally found to have elevated liver enzymes and lipase on outpatient testing. MRCP revealed biliary dilation with a distal common bile duct filling defect. ERCP demonstrated choledocholithiasis and a prominent ampulla. After sphincterotomy, abnormal tissue was noted and biopsied, revealing a tubular adenoma without dysplasia. Further evaluation with EUS showed no pancreatic involvement. The patient underwent endoscopic resection and recovered uneventfully. This case highlights the importance of considering ampullary neoplasms in elderly patients with unexplained biliary obstruction, even in the absence of a polyposis syndrome. Endoscopic biopsy and resection are critical for diagnosis and management, while surveillance is essential for recurrence or malignant transformation. Early recognition and appropriate referral for endoscopic or surgical intervention can improve outcomes in these patients.

Keywords: Ampullary adenoma; Obstructive jaundice; Tubular adenoma; Endoscopic papillectomy; ERCP; Biliary obstruction

1. Introduction

The ampulla of Vater occurs at the confluence of the common bile duct and the main pancreatic duct. It is a sac-like structure where bile and pancreatic juices reside prior to secretion into the duodenum. It is surrounded by the Sphincter of Oddi and opens into the duodenum as major duodenal papilla.

Tumors are called periampullary if they arise within 2 cm of the ampulla. Despite similar symptoms at presentation, they exhibit different origins including pancreatic cancer, cholangiocarcinoma, and ampullary tumors, originating from the ampulla of Vater itself, duodenal adenocarcinoma and gastrointestinal stromal tumor (GIST).

Ampullary adenomas are rare neoplasms arising near the Ampulla of Vater, comprising only 6% of periampullary lesions. These premalignant lesions often manifest with obstructive jaundice due to common bile duct compression, responsible for 20 percent of malignancy-associated common bile duct obstruction(1).

It is typically associated with small intestinal polypoid syndromes like familial adenomatous polyposis, their incidence rises in conditions like Lynch syndrome and familial adenomatous polyposis (1). Survival depends on spread and

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histology with non-pancreaticobiliary type with a favorable prognosis (5 year survival- 47-88 %) compared to pancreaticobiliary (5 year survival - 20-47%)

2. Case

84-year-old female with a past medical history of hypertension, breast cancer, and seizure disorder reports that approximately 3 weeks ago she followed up with her primary care regarding epigastric pain nausea, and vomiting. In outpatient lab work she was found to have elevated liver function test and lipase as mentioned in table 1.

Table 1 Lab Results

Lab Value	Outpatient Value	Subsequent Inpatient Value
AST[<32 U/L]	49	30
ALT[<52 U/L]	120	17
Alkaline phosphate[<140 U/L]	376	109
Lipase[<60 U/L]	67	42

The patient reported that all symptoms had subsided. She denied any further abdominal pain, nausea vomiting, or diarrhea. The patient's repeat laboratory studies were found to be normal. On admission, the patient was afebrile and hemodynamically stable. MRCP demonstrated Intra and extrahepatic biliary dilatation with a filling defect in the distal common bile duct and borderline prominent pancreatic duct without definite pancreatic inflammatory change.

Gastroenterology was consulted and the patient underwent ERCP showing a prominent papilla but otherwise appeared normal. Wire-guided cannulation of the common bile duct was done. Stones were identified in the bile duct on the initial cholangiogram. Post-endoscopic sphincterotomy, abnormal tissue was seen coming out of the bile duct. Biopsies were taken which later demonstrated tubular adenoma without evidence of dysplasia or cancer, The Patient was transferred to a tertiary center for EUS. There was no sign of endosonographic abnormality in the entire pancreas parenchyma. EGD images are as below in Figure 1 and 2.

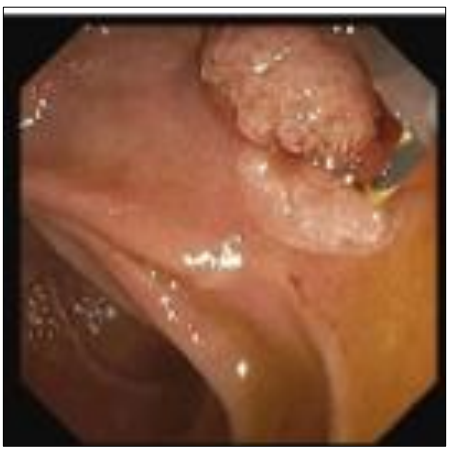

Figure 1 Ampulla of Vater mass

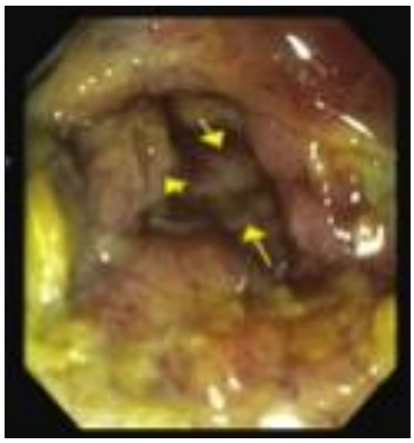

Figure 2 Biliary drainage upon ampullary resection

3. Discussion

The incidence of ampullary tumors is seen in association with small intestinal polypoid syndromes compared with the general population. Even the age group at which it occurs in these conditions is 40-50 years old as compared to 60-70 years old in the general population. Intestinal (47%) is the most frequent histologic subtype, with pancreaticobiliary (24%) intestinal-mucinous (8%), poorly differentiated adenocarcinomas (13%), and invasive papillary (5%) (2). These results suggest that there are various mechanisms through which a malignancy in this region can develop, as well as several risk factors. COX-2 is more likely to be related to intestinal neoplasms than biliary or pancreatic neoplasms.

Obstructive jaundice, which results from the tumor compressing the distal bile duct, accounts for 80% of common presentations. Although dyspepsia, moderate nausea, fever, stomach discomfort occult gastrointestinal blood loss, and pancreatitis are other presentations. Whenever a patient exhibits obstructive jaundice, these are typically diagnosed on EGD/ERCP as in our patient's case.

Endoscopic papillectomy is recommended for individuals with ampullary adenoma who do not have an intraductal extension. Ampullary adenomas with a diameter of up to 20–30 mm should be excised in one piece and Whipple's surgery in cases of intraductal involvement (of > 20 mm) and when endoscopic resection is not practical due to technical reasons (e.g., diverticulum, size > 4 cm (3).

A biopsy from the area is required to determine the cell lineage and whether any malignant characteristics are present. To stage ampullary tumors, the European Society of Gastrointestinal Endoscopy guidelines suggest abdominal magnetic resonance cholangiopancreatography (MRCP) and endoscopic ultrasound (4). ESGE advises long-term patient monitoring based on duodenoscopy with biopsies of the scar and any abnormal area within the first three months, at six and twelve months, and then annually for at least five years

4. Conclusion

Patients without a previous family history may not exhibit symptoms of ampullary adenomas, but any such finding on an EGD requires resection and histology. Additional EUS must be carried out to check for invasion, and once guidelines are followed for directed resection, monitoring is necessary to check for recurrence. In the absence of any previous information, patients should also have a colonoscopy because it may be linked to colonic polyploid syndromes, particularly if the condition manifests early in life

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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