



Leave No “Stone” Unturned: Acute Cholangitis – A Case Report

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Learning Objectives

1. Review the clinical features and diagnosis of ampullary carcinoma (AC)
2. Describe the recommended surgical and medical treatment of AC
3. Compare the effects of pancreaticoduodenectomy versus ampullectomy on mortality in AC

Case Description

Patient is a 65-year-old male with history of prostate adenocarcinoma who presented to the emergency department (ED) with two days of right upper quadrant (RUQ) pain, fever, chills, nausea, diarrhea and orange-tinged urine. He also reported three months of episodic RUQ “fullness,” fatigue and myalgias. Recent outpatient bloodwork revealed “abnormal liver tests,” and abdominal ultrasound (US) showed common bile duct dilation with no appreciable gallstones or masses. He was scheduled for outpatient Endoscopic Retrograde Cholangiopancreatography (ERCP), but presented to the ED one day prior with the above chief complaint. He is a lifelong non-smoker, rarely consumes alcohol and denies drug use.

On exam, he was febrile (38.3°C), tachycardic (126 BPM) and slightly hypertensive (133/68 mmHg). He appeared well-developed, well-nourished, younger than his stated age and in moderate distress. Jaundice and scleral icterus were present. He had RUQ tenderness and positive Murphy’s sign, but his abdomen was soft and non-distended with normoactive bowel sounds and no appreciable rebound, guarding, hepatosplenomegaly or

ascites.

Table 1 displays pertinent serum chemistries. Urinalysis revealed moderate bilirubin and positive urobilinogen (2.0 mg/dL). Repeat US confirmed outpatient findings. The patient was admitted and started on intravenous piperacillin/tazobactam for sepsis secondary to acute cholangitis of suspected gallstone origin. Other potential etiologies included biliary stricture and malignancies of the bile duct, ampulla, duodenum and pancreas. ERCP ultimately revealed a 5 cm ampullary mass. A stent was placed to relieve biliary drainage. Biopsy later reported ampullary carcinoma (AC). Upon resolution of his acute cholangitis, the patient opted to proceed with interim outpatient management until more definitive medical and/or surgical intervention.

Discussion

Representing only 0.2% of all gastrointestinal malignancies, AC is a rare malignant neoplasm of the ampullary complex, which extends from the major duodenal papilla to the adjoining main pancreatic and common bile ducts.¹ Common clinical features include jaundice and scleral, conjunctival and sublingual icterus.¹⁻⁴ Patients may also have steatorrhea, nausea, vomiting, weight loss and fatigue.¹⁻⁴ Serum chemistries follow a cholestatic pattern, with elevated alkaline phosphatase, hyperbilirubinemia and mild transaminitis.⁵ ERCP is the diagnostic gold standard and allows for tumor localization, biopsy and biliary stenting.⁴ Staging follows the TNM system.⁶

Surgical resection offers the only potential cure for AC.¹ Associated with overall five- and ten-year survival of

Table 1. Pertinent serum chemistries on presentation.*

Albumin	ALP	AST	ALT	TBili	Libase	Leukocyte Count	CRP
4.3 g/dL	989 U/L	271 U/L	439 U/L	4.0 mg/dL	144 U/L	12,500/mm ³ 93% neutrophils	8.5 mg/L

*ALP: alkaline phosphatase; AST: aspartate aminotransferase; ALT: alanine aminotransferase; TBili: Total Bilirubin; CRP: C-Reactive Protein

Reference Ranges: Albumin (3.5 - 5.5 g/dL), Alkaline Phosphatase (30 - 100 U/L), Aspartate Aminotransferase (8 – 40 U/L), Alanine Aminotransferase (8 – 40 U/L), Total Bilirubin (< 0.3 mg/dL), Lipase (Varies), Leukocyte Count (4,500/mm³ – 11,000/mm³), C-Reactive Protein (Varies)



37% and 25%, pancreaticoduodenectomy (PD) is the standard surgical intervention.^{1,7} Ampullectomy (AMP) represents an alternative for early AC.⁸ Similar five- and 10-year survival was observed in patients with pT1 AC who underwent AMP versus PD (65% versus 66%, 43% versus 39%, $p=0.639$), but AMP was associated with significantly lower blood loss, operative length and post-operative pancreatic fistula formation.⁸ For more aggressive AC, survival following PD exceeds AMP.⁹ For stage T2N0 or greater, current guidelines suggest adjuvant gemcitabine and capecitabine, followed by fluorouracil-based chemoradiotherapy.^{1,10-12} Non-operative candidates may undergo minimally invasive procedures, including papillectomy,¹³ laser ablation¹⁴ and photodynamic therapy,¹⁵ which are palliative but non-curative.

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