Diagnosis and Treatment of Lemmel's Syndrome Causing Obstructive Jaundice: A Case Report

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Introduction

Obstructive jaundice is a common manifestation that is often associated with choledocholithiasis and biliary or periampullary tumors. Lemmel's Syndrome (LS) occurs when obstructive jaundice occurs in the absence of choledocholithiasis or pancreatico-biliary or periampullary tumors and secondary to the presence of periampullary diverticula (PAD). Small PAD remains asymptomatic and rarely require treatment. Larger PAD may obstruct the ampulla of Vater and cause obstructive jaundice. We describe a case of LS treated with endoscopic retrograde cholangiopancreatography (ERCP), sphincterotomy and stent placement.

Case Presentation

A 79-year-old female with history of gallstone pancreatitis status post cholecystectomy presented to the emergency department with epigastric pain with associated nausea and vomiting. Initial laboratory workup was notable for leukocytosis, hyperbilirubinemia, and elevated liver function tests.

Table 1. Laboratory analysis throughout hospital course

	ED	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Discharge	Range
Hematology									
WBC	14.6	10.8	8.4	6.5	6.3	5.9	5.9	7	(4.5 to 11.0 x 10^9/L)
Hbg	11.9	10.9	10.4	10.1	11	11.4	12.4	11.6	women (12.0 to 15.5 g/dL)
Hct	34	33.5	32.2	31	33.5	34.1	37.2	34.6	(36.1% to 44.3%)
MPV	9.3	9.7	9.9	9.9	9.7	9.6	9.2	9.3	(7-12 fL)
Neutrophils %	83	83.3	79.8	77.1	82	70.6	67.7	71.9	(45-75%)
Band Neutrophils	12	-	-	-	-	-	-	-	(0-5%)
Lymphocytes %	3	10.2	12.7	12.9	7	14.7	20.1	18.1	(20-40%)
Neutrophils #	13.87	8.97	6.68	5	5.17	4.14	4.02	5.01	(1,500 to 8,000/mm3)
Lymphocytes #	0.44		1.06	0.84	0.44	1.02	1.19	1.26	(1,000 and 4,800 µL)
Chemistry									
Lactic Acid	2.5	0.7	-	-	-	-	-	-	(4.5 to 19.8 mg/dL)
Total Bilirubin	1.9	1.4	0.6	0.7	0.9	0.6	0.5	0.4	(4.5 to 19.8 mg/dL)
Direct Bilirubin	-	0.8	-	-	-	-	-	-	(0.3 mg/dL)
AST	748	381	131	52	31	104	24	16	(5 to 40 U/L)
ALT	547	415	247	165	134	21	89	68	(7 to 56 U/L)
Alkaline Phosphatase	172	164	130	127	144	136	132	123	(44 to 147 U/L)
Albumin	3.3	3	2.8	2.7	3.2	3	3.1	3	(3.4 to 5.4 g/dL)
Lipase	8975	19501	3255	1112	917	-	-	-	(24 to 151 U/L)

WBC = White blood cells, Hbg = hemoglobin, Hct = hematocrit, MPV= mean platelet volume, AST= Aspartate transaminase, ALT= alanine transaminase

Case Presentation

CT evaluation revealing a 3cm duodenal diverticulum and subsequent multiplanar, multi-sequence MRI performed demonstrating a duodenal diverticulum measuring approximately 4cm in transverse dimension impinging on the head of the pancreas and mildly dilated extrahepatic and intrahepatic bile ducts. There were no filling defect within the bile ducts.

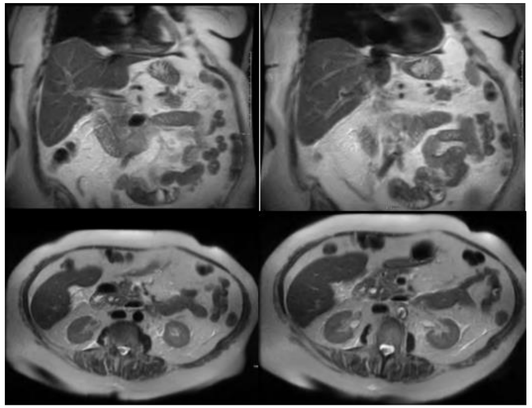


Figure 1. Magnetic resonance cholangiopancreaography

Patient underwent an ERCP in which a sphincterotomy was performed within the papillotome. A 9-12 mm balloon was used to make multiple sweeps on the common bile duct. Cholangiogram did not reveal filling defects. The patient did have a distal common bile duct stricture likely from external compression from her diverticulum. A 10 mm x 60 mm fully covered wall flex stent was deployed in the common bile duct. Patient post procedure had resolution of her symptoms with normalization of her bilirubin.



Figure 2. Endoscopic retrograde cholangiopancreatography

Conclusion

PAD occurs predominantly in the elderly with an increased female frequency. The incidence of (PAD) is estimated to be 1 to 27%, with an incidence of 10 to 15% of patients undergoing ERCP. MRCP/ERCP evaluation may be performed to visualize the common bile duct and identify the various causes of obstructive jaundice including Lemmel's Syndrome.

References

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