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Corresponding Author:	Ali Nawras, M.D. Univerity of Toledo Medical Center Toledo, Oh UNITED STATES
Corresponding Author Secondary Information:	
Corresponding Author's Institution:	Univerity of Toledo Medical Center
Corresponding Author's Secondary Institution:	
First Author:	Ehsan Rafiq, M.D.
First Author Secondary Information:	
Order of Authors:	Ehsan Rafiq, M.D.
	Osama Alaradi, M.D.
	Muhammad Bawany, M.D.
	Ali Nawras, M.D., FACG, FASGE
Order of Authors Secondary Information:	
Abstract:	

A Combination of Snare Polypectomy and APC Therapy for Prolapsing Common Bile Duct Adenoma

Authors: Ehsan Rafiq[1] MD
Osama Alaradi[2] MD
Muhammad Bawany[1] MD
Ali Nawras[1] MD, FACG, FASGE

Affiliation: 1. Department of Medicine, University of Toledo Medical Center, Toledo, OH, USA
2. Henry Ford Hospital, Detroit, MI, USA

Introduction

Bile duct adenomas are an extremely rare entity with only a few reported cases in the literature and limited knowledge about its natural progression. Appropriate therapeutic strategies for distal common bile duct (CBD) adenomas have not been clearly defined. We report a patient with distal CBD adenoma who presented with acute cholangitis and treated endoscopically with a combination of snare polypectomy and Argon Plasma Coagulation (APC).

Case Profile

An 83 years old gentleman presented with fever, abdominal pain and jaundice. Laboratory values were as follow: Total Bilirubin 6.0 mg/dL, Direct Bilirubin 4.6 mg/dL, AST 87 U/L, ALT 69 U/L and Alkaline Phosphatase 157 U/L. Endoscopic retrograde cholangiopancreatography (ERCP) was performed which revealed a distal CBD filling defect immediately proximal to the papilla thought to be CBD stone **(Figure 1).** Biliary sphincterotomy was performed and sludge was removed with balloon sweep, however, the filling defect persisted for which biliary stent was placed and purulent bile was drained through the stent **(Figure 2).** Six weeks later ERCP was repeated and

cholangiogram revealed persistent filling defect in distal CBD measuring 15 mm. Balloon sweep revealed a distal CBD polyp which was prolapsing out of the duct through the papilla and into the duodenum during balloon sweep **(Figure 3)**. Piecemeal intraductal partial snare polypectomy was performed **(Figure 4).** This was followed by intraduodenal pull and cut technique, using combination of mini-snare (Boston Scientific Profile™, Extra Small 11mm) and biopsy forceps (Boston Scientific Radial Jaw™ 4, Pediatric 2.0mm) both introduced through the side viewing duodenoscope (Olympus TGF-160 F) channel in an overlying manner **(Figure 5).** Histopathology showed tubulovillous adenoma with no evidence of high-grade dysplasia. Residual filling defect persisted. A biliary stent was placed and good biliary drainage was achieved. Surgical consultation was sought for a possible surgical removal of the polyp, however, the patient was considered a poor surgical candidate due to his multiple co-morbidities and repeating ERCP with polypectomy was considered.

Follow up ERCP revealed a smaller distal CBD filling defect consistent with residual polyp. Spyglass Spyscope® (Boston Scientific, Natick, MA) choledochoscopy was attempted first; however, due to the location of the polyp immediately proximal to the papilla the procedure was suboptimal in visualizing the lesion. Subsequently, choledochoscopy was performed with the forward view gastroscope and the residual polypoid tissue was identified, shaved with a snare and ablated with APC Catheter (ERBE Elektromedizin, Tubinger, Germany) under direct visualization **(Figure 6,7&8)**. Biliary stent was placed after APC therapy to maintain drainage. The stent was removed eight weeks later and the cholangiogram revealed no filling defect or stricture at the distal CBD. At 18 months follow up the patient was asymptomatic, had normal Liver Function Tests and did not require further biliary stenting.

Pictures

Figure 1. Cholangiogram showing distal CBD filling defect

Figure 2. Biliary stent draining purulent bile

Figure 3. Distal CBD polyp prolapsing out of papilla during balloon sweep

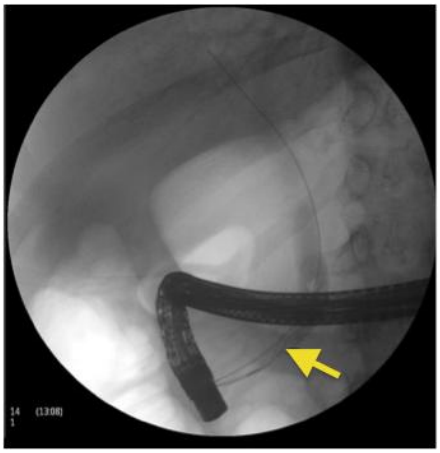

Figure 4. Intraductal snare polypectomy (snare at the distal CBD)

Figure 5. Mini-snare slide over a mini-biopsy forceps (both passed through the side-viewing scope) used to pull and snare the polyp

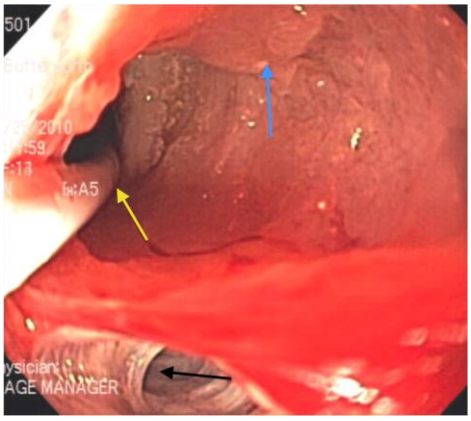

Figure 6. View of the common bile duct (yellow arrow) and pancreatic duct (black arrow). Residual sessile polyp (blue arrow) is also seen in CBD

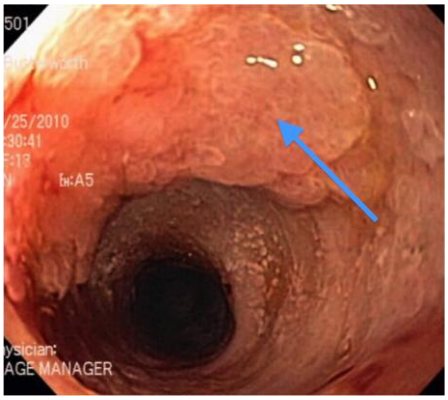

Figure 7. Post polypectomy picture of residual polyp in the CBD (blue arrow)

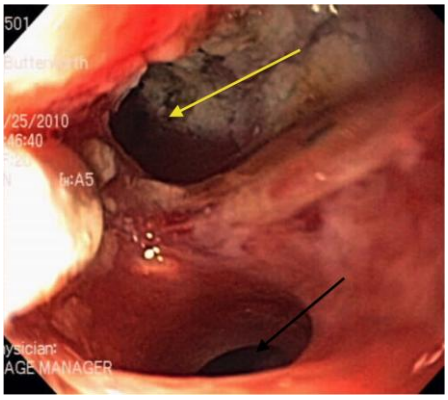

Figure 8. Post APC ablation therapy showing patent CBD (yellow arrow) and pancreatic duct (black arrow)

Discussion

Histologically, gastrointestinal (GI) tract adenomas are classified into tubular adenoma, tubulovillous adenoma, and villous adenoma[1]. Tubulovillous adenomas can occur at any site in the GI tract, usually in the colon and rectum and less frequently in the small bowel but very rarely in the CBD[2]. Clinical presentation of CBD adenomas includes right upper quadrant abdominal pain, jaundice, dyspepsia, nausea and vomiting. Although tubulovillous adenomas are benign tumors, they are considered to be premalignant and it is possible that adenoma-to-carcinoma sequence does occur in biliary tumors[3,4]. Therefore, complete resection of a tubulovillous adenoma will not only improve the symptomatology but also prevent the development of carcinoma[5]. Differentiation of a benign biliary adenoma from a cancerous lesion is difficult with radiologic imaging only[6]; however, an expert biliary endoscopist may suspect a malignant focus. Appropriate management of biliary neoplasms in distal CBD has not been clearly defined. High-risk patients can be treated by endoscopic resection[7] but risk of recurrence is high. Local resection can be performed in high-risk patients who are thought to have benign tumors[8]. Radical resection is needed if malignancy is suspected or size of tumor is more than 2 cm[9].

Challenges in the management of CBD adenomas are two folds. First, is the diagnostic challenge, since many adenomas can mimic CBD stones, in particular when they present with cholangitis and dilated biliary tree. This requires choledocoscopy for direct visualization of the lesion. Second, is the difficulty in achieving complete resection of intraductal polyps with endoscopic measures, thus, making surgical resection as the most appropriate treatment option. Endoscopic management of GI tract polyps is usually performed using snare polypectomy and if the polyp is sessile and large often with APC treatment of the edge of polypectomy site. Since complete resection of the CBD polyp was difficult to be achieved in our patient due to location of the polyp, APC ablation of the base of polypectomy site was performed.

This case illustrates that a combination of snare polypectomy and APC is a reasonable palliative therapy for patients who are not surgical candidates due to other co-morbidities as it relieves the obstruction, maintains the patency of the CBD and obviates the need for multiple ERCPs.

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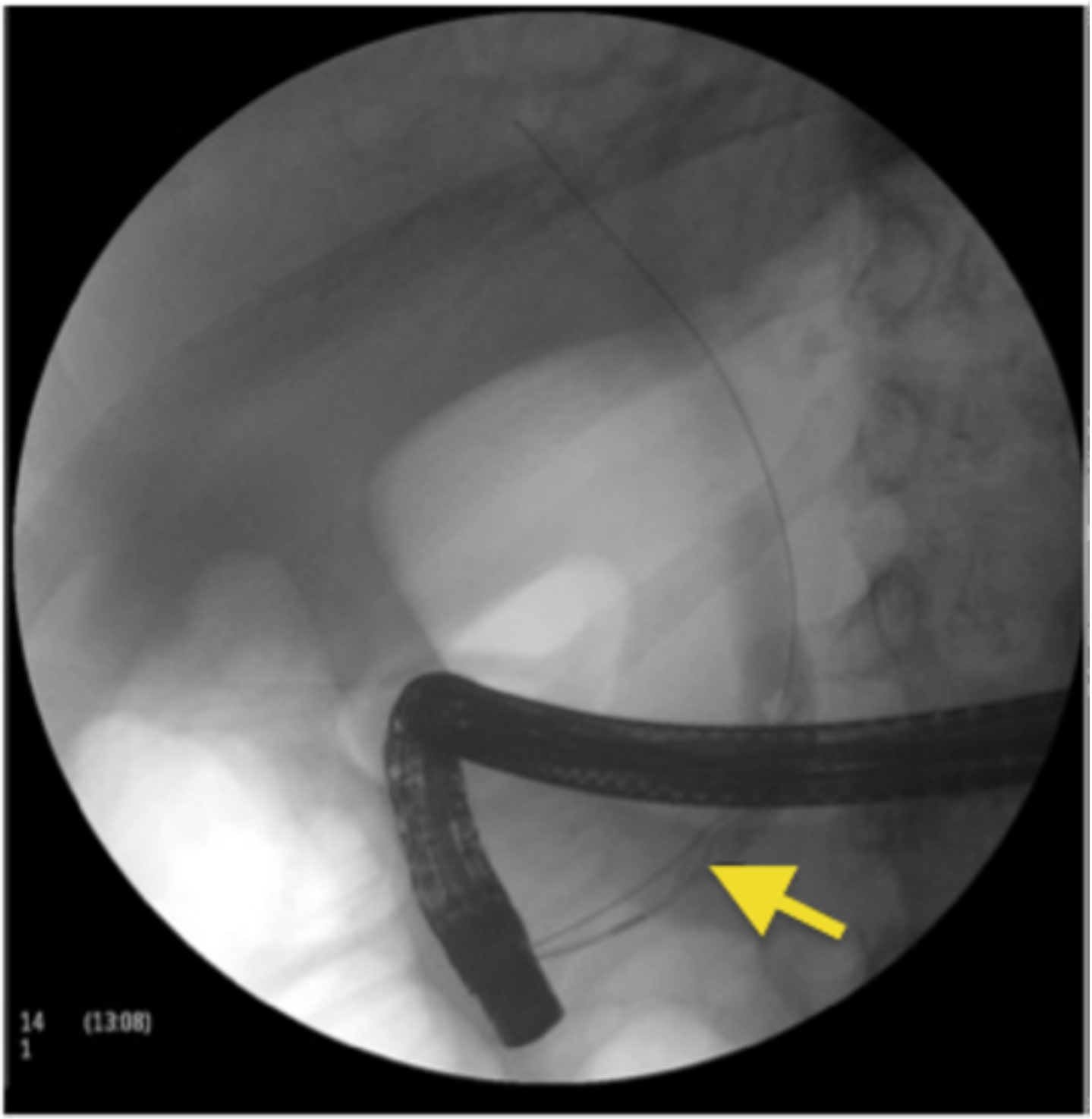

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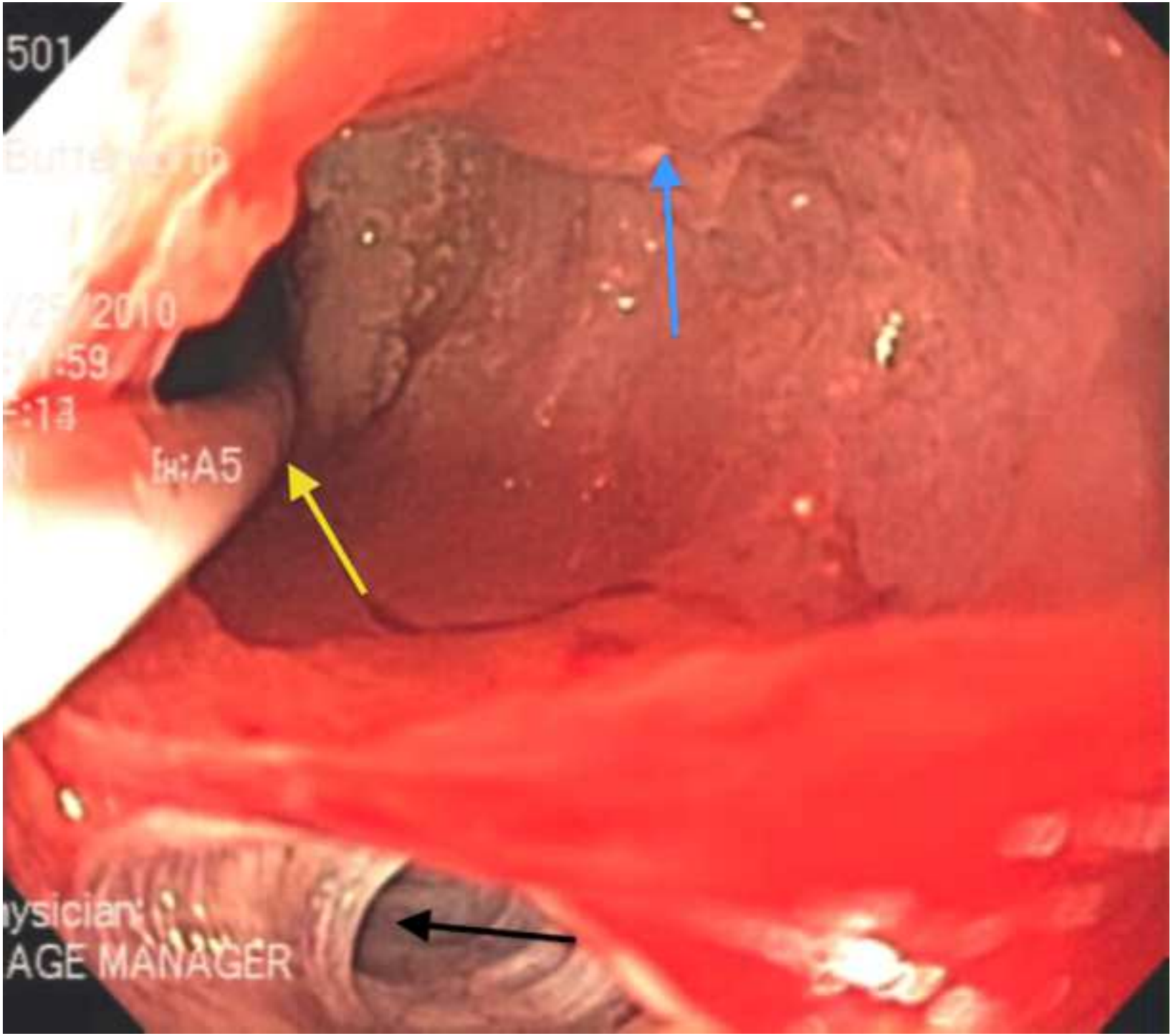

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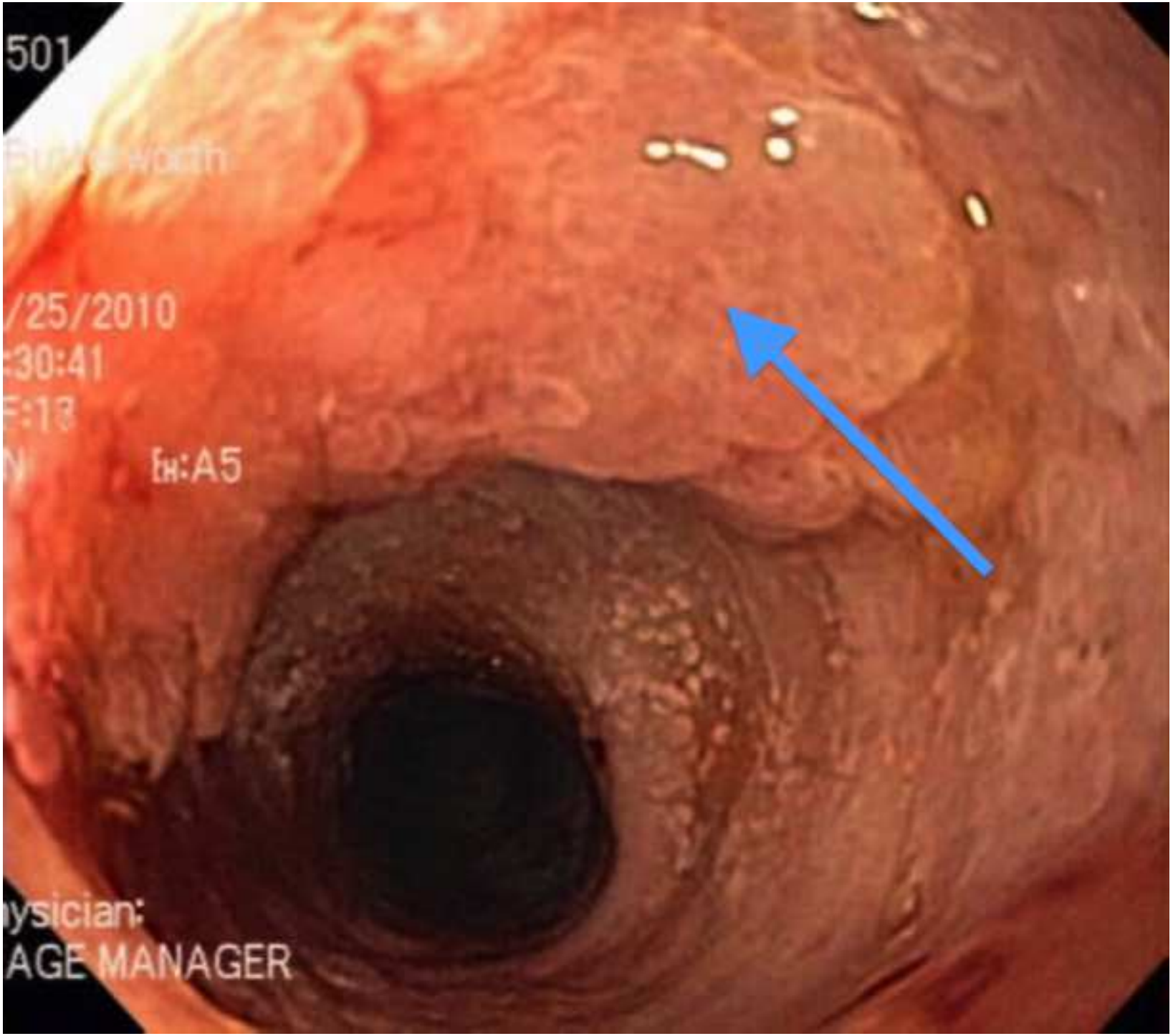

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