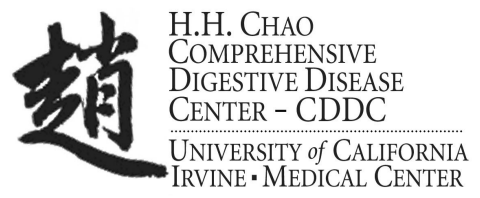




Colonoscopy-Associated Tension Pneumoperitoneum after Endoscopic Submucosal Dissection

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INTRODUCTION

- Colonoscopy is a generally low-risk procedure with potential complications including bleeding or perforation.
- Although rare, perforation can result in tension pneumoperitoneum, which can be fatal.
- Here we present the case of an endoscopic submucosal dissection (ESD) complicated by tension pneumoperitoneum treated with emergent needle decompression.

CASE DESCRIPTION

- A 74-year-old male underwent a colonoscopy that identified a rectosigmoid, 4 cm Paris II-a laterally spreading tumor.
- Endoscopic ultrasound (EUS) failed to identify deep submucosal invasion and so an ESD was planned.
- During ESD, a full thickness tear was noted.
- As the perforation was closed with hemoclips, the patient developed acute hypoxic respiratory failure, hypotension, and distended/tympanic abdomen suggestive of tension pneumoperitoneum.

IMAGING

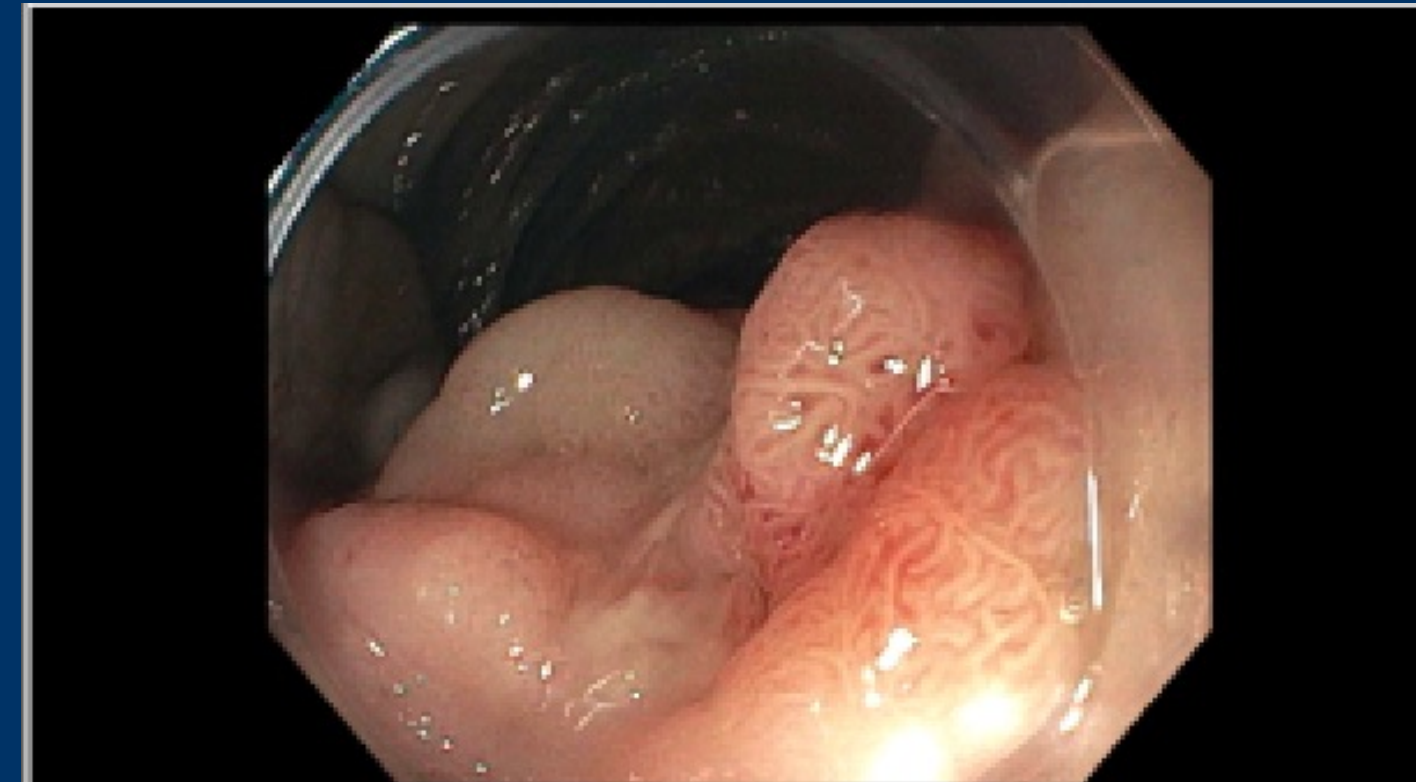


Figure 1: Colonoscopy demonstrating lesion of rectosigmoid colon prior to ESD.

CASE PRESENTATION

- Colorectal surgery was consulted and performed emergent needle decompression of the abdomen by inserting a 14-gauge angiocatheter in the left upper quadrant, inferior to the costal margin.
- The patient's abdomen immediately decompressed with subsequent resolution of hypotension and respiratory failure.
- Broad-spectrum IV antibiotics were initiated and the patient was transported to the ICU without further need for surgical intervention.

DISCUSSION

- The risk of perforation with ESD ranges from 1.4-10%. Risk factors include increased size, submucosal fibrosis, lateral spreading polyps, and location in the cecum or ascending colon.
- Pneumoperitoneum is usually benign and can be managed conservatively with antibiotics, but occasionally tension pneumoperitoneum can develop with hemodynamic compromise.
- In these situations, urgent needle decompression should be performed with a large-bore catheter needle.
- Tension pneumoperitoneum is a rare but potentially life-threatening complication of iatrogenic perforation that can be fatal if not quickly identified.

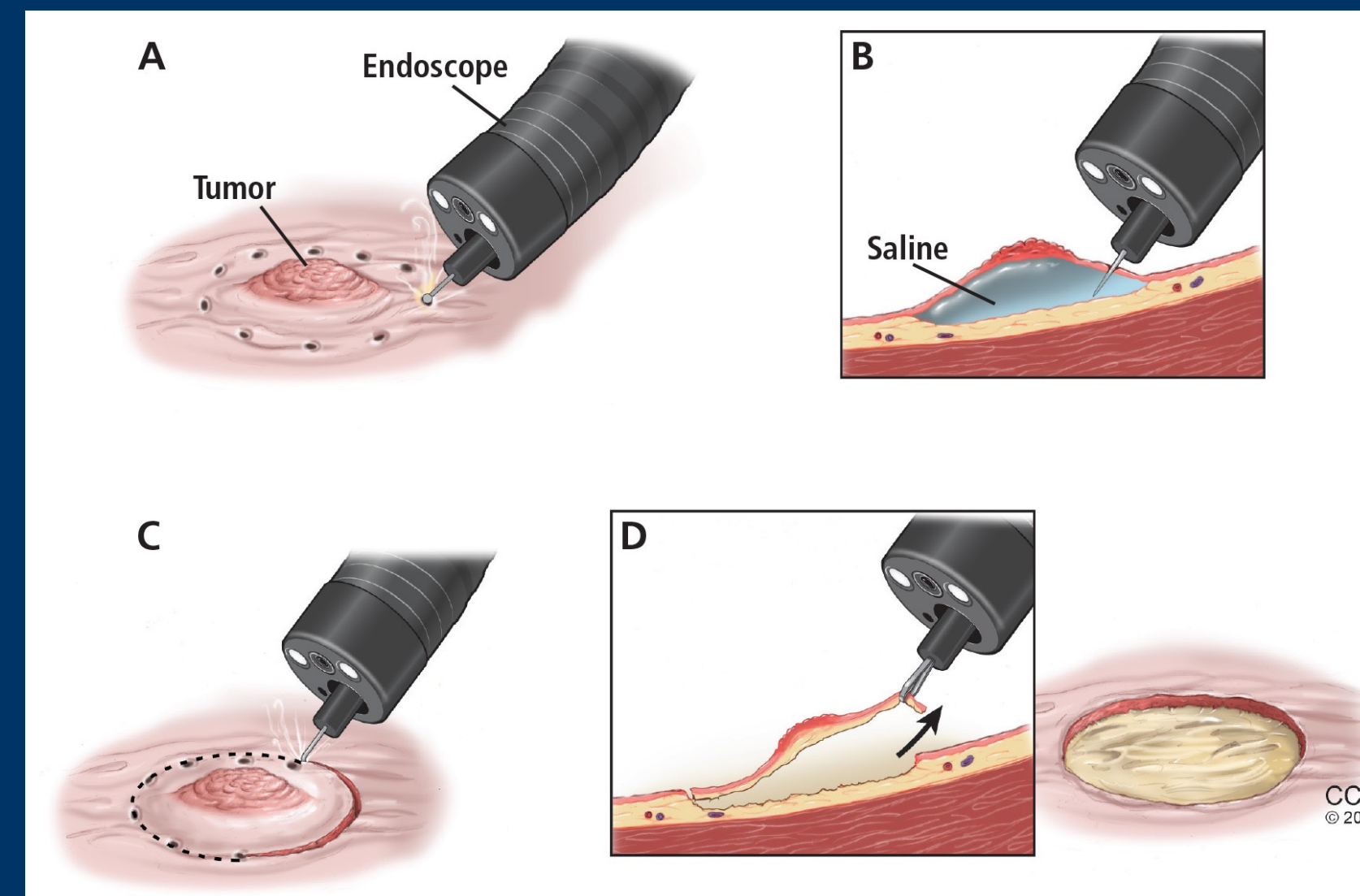


Figure 2: Stepwise technique of Endoscopic Submucosal Dissection (ESD).
<https://consultqd.clevelandclinic.org/a-minimally-invasive-treatment-for-early-gi-cancers/>