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## Background

- Adenocarcinoma with mucinous features accounts for 10-15% of colon carcinoma.
- Colonic adenocarcinoma with mucinous features:
  - Occurs more commonly in female and younger patients.
  - Is more frequently located in the proximal colon and diagnosed at an advanced stage.
- The endoscopic features of colorectal adenocarcinoma with mucinous features are unknown.

## Case Description

- History of Present Illness:
  - 70-year-old female with a history of breast cancer, GERD & hyperlipidemia was referred for endoscopic resection of a 20 mm Paris 0-IIa non-granular flat type laterally spreading lesion at 20 cm from the anal verge.
- Prior incomplete endoscopic mucosal resection (EMR):
  - Was performed at an outside institution.
  - Pathology had shown tubulovillous adenoma with high-grade dysplasia and a focus of small irregular glands in a desmoplastic stroma suspicious of invasion.

## Endoscopic Submucosal Dissection (ESD)

- For submucosal lifting, an ORISE gel was used.
- Submucosal dissection was difficult due to the presence of severe submucosal fibrosis.
- Several thick, clear mucus-like droplets were noted protruding from underneath the lesion. (Fig 1b.)
- The lesion was successfully removed en bloc without any complications.

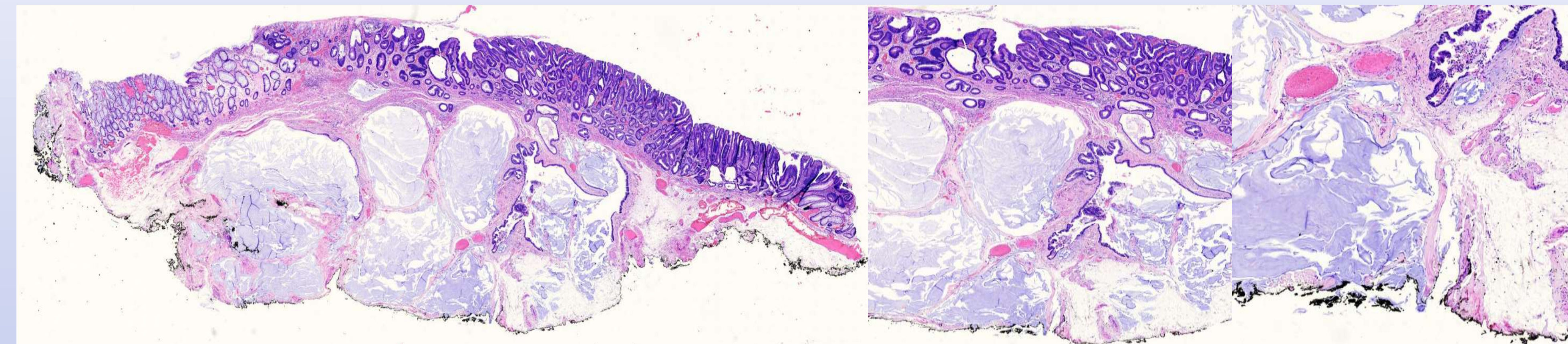
**Fig 1.**

a) Endoscopic identification of a laterally spreading lesion. b) Mucin protruding during ESD in the sigmoid colon. c) The retrieved specimen measured 24x18 mm.



**Fig 2.**

Histopathological images of extracellular mucin pools at vertical margins



**Submucosal mucin droplets might be an endoscopic sign of colorectal adenocarcinoma with mucinous features.**

## Clinical Progress

- Pathology:
  - Invasive well-differentiated adenocarcinoma with mucinous features. (Fig 2.)
  - Neoplastic cells were focally seen <1mm from the deep margin. (Fig 2.)
  - No lymphovascular invasion or tumor budding.
- The patient proceeded to a sigmoid colectomy.
- Review of the surgical specimen:
  - Focal low-grade dysplasia at prior resection site with no residual carcinoma.
  - Negative margins and lymph nodes.

## Discussion

- Colorectal adenocarcinoma with mucinous features is characterized by the presence of extracellular mucin entailing <50% of tumor volume. In this case, extracellular mucin was endoscopically visualized from the tumor during ESD and pathology subsequently confirmed the diagnosis of adenocarcinoma with mucinous features. To our knowledge, this phenomenon has not previously been reported.
- Mucinous histologic type, compared to nonmucinous adenocarcinoma is associated with a higher T staging at diagnosis, greater risk of metachronous metastases and worse survival.
- Importantly, newer synthetic submucosal lifting agents such as ORISE gel can demonstrate a similar appearance to mucin in earlier stages and can also result in a foreign body granulomatous reaction in later stages. The impact of these agents on the pathological evaluation of ESD specimens should be noted to avoid misdiagnosis.