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EUS-guided fine needle biopsy of an anal gland adenocarcinoma with submucosal rectal invasion after normal colonoscopy. An uncommon histology

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Dear Editor,

We present the case of a 63-year-old male with long-term anal pain. A colonoscopy including retroflexed view of the rectum was normal. Giving no improvement, a pelvic MRI was performed (Fig.1A), showing a 3.2x3x3.5 cm tumor arising from the intersphincteric space affecting the internal and external sphincter and extending into the submucosal layer of the posterior rectal wall. Also, two small fistulae were observed inside the tumor directing posteriorly. The image was compatible with a cT4N0 ano-rectal carcinoma without any distant metastasis on the CT scan.

The patient underwent rectoscopy showing a slightly depressed area in the lower rectum (Fig.1B). The proctoscope was exchanged for a radial echoendoscope (Olympus

GF-UE 190), showing above the hemorrhoidal plexus at the rectal posterior wall, circumferential thickening invading the perirectal tissue and losing the cleavage limit with the external sphincter (fig.1C). EUS- guided tissue sampling was performed by means of an 22G histologic core biopsy needle (Acquire™ Boston Sc.) (fig.1D).

The samples were processed as cellular block. Histopathology showed neoplastic proliferation cells arranged in nodules and nidus, invading the muscular layer and constituted by angulated glands (Fig 1E, Hematoxylin and eosin, magnification 20x, arrow) with mucin production. These findings were consistent with anal glands adenocarcinoma with a positive immunohistostaining for CK7 and MUC5+.

The patient underwent aggressive cytoreduction chemoradiation followed by abdominoperineal resection (Fig.1F).

Carcinoma arising from the anal canal accounts for 1% of all gastrointestinal cancers, with the vast majority being squamous cell carcinoma and adenocarcinoma representing only 5 to 10 % [1]. A recent classification suggests two types: from colorectal mucosa above dental line or extramucosal from anorectal fistulae or anal gland[2]. Anal gland carcinoma is extremely rare and are associated in 50% with fistulae. These tumors show a positive immunohistostaining for CK7 and negative for CK20 [3].

Patients may present anal pain (58%), rectal bleeding (40%), or the presence of perianal mass (37%) [4]. In contrast to anal squamous cell carcinoma and rectal adenocarcinoma, anal adenocarcinoma carries a worse prognosis with a higher proportion of advanced-stage diagnoses. Therefore, a trimodality therapy including neoadjuvant chemoradiation followed by abdominoperineal resection is recommended [5]. This case illustrates the crucial role of EUS for detection and accurate histological diagnosis in the evaluation and characterization of these challenging perirectal tumors.

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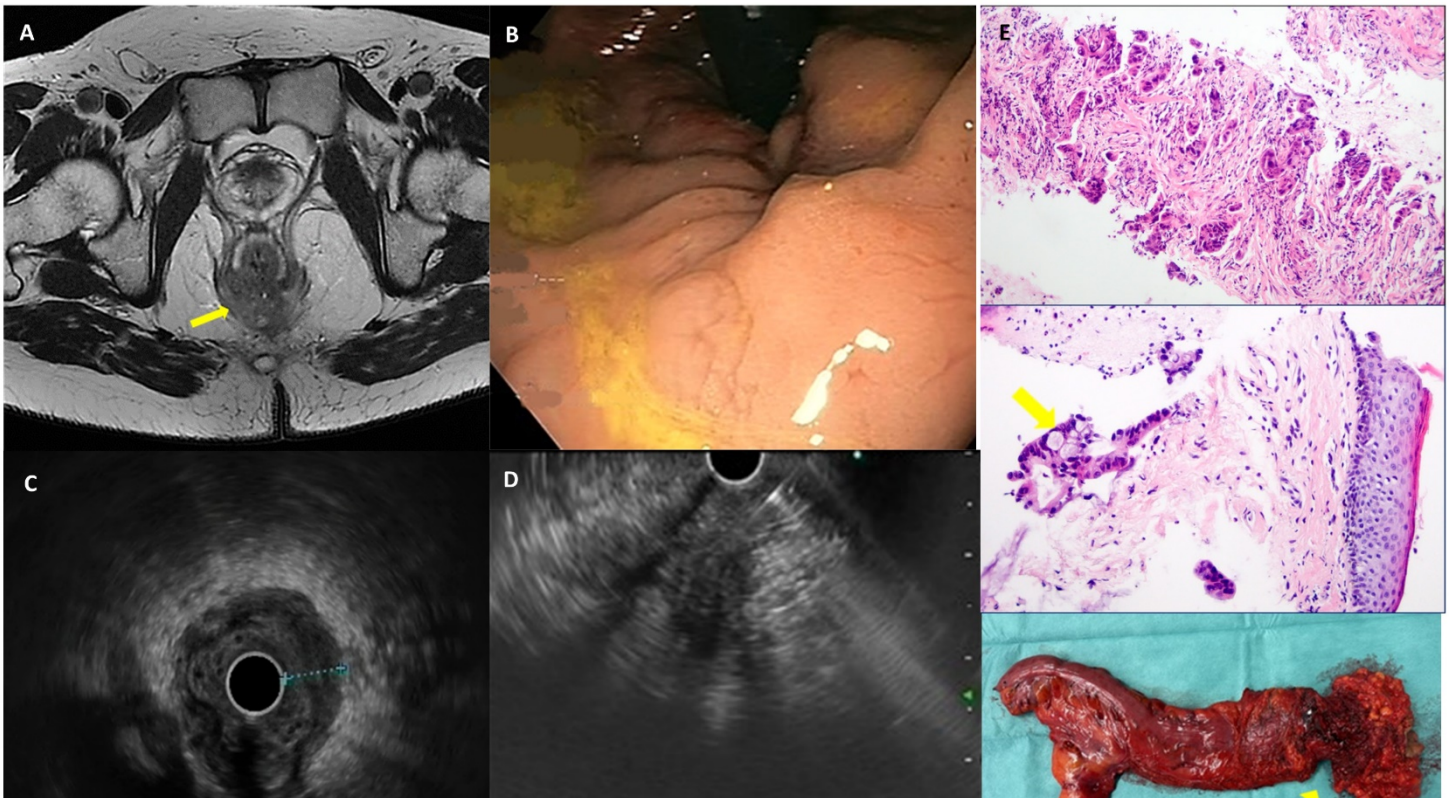

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Figure: 1A: The pelvic MRI shows a perirectal mass (arrow) extending into the posterior rectal wall and external sphincter**. 1B:** Retroflexed endoscopic view of the lower rectum that shows a slightly depressed area above hemorrhoidal plexus. **1C**. Endoscopic ultrasound view of a circumferential transmural thickening extending into the perirectal tissue and with invasion of the external rectal sphincter. **1D.** Endoscopic ultrasound-guided fine needle aspiration using a 22 G-needle. **1E:** Neoplastic proliferation cells which are arranged in nodules and nidus, invading the muscular layer (Hematoxylin and eosin, magnification 20x) or constituted by angulated glands (arrow) with mucin production. 1F: Postsurgical specimen of the rectum after abdominoperineal resection. Notice the depressed and fibrotic area in the lower rectum near the anal canal, corresponding with the previously radiated anal adenocarcinoma.