Case 9642

Anal carcinoma arising in fistulising perianal Crohn’s disease
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Section: Abdominal imaging
Area of Interest: Pelvis
Procedure: Staging
Imaging Technique: CT
Special Focus: Neoplasia Case Type: Clinical Cases
Authors: Tonolini Massimo, MD.
Patient: 38 years, female

Clinical History:
Anal swelling and bleeding in a middle-aged female patient with history of long-standing Crohn’s disease, previous surgical treatment for anovaginal fistula and abscess two years earlier. No significant abnormalities of laboratory tests.

Imaging Findings:
Clinical examination disclosed oedematous, hyperaemic perianal skin with subcutaneous inflammatory infiltrate, presence of fistulous tracts with purulent secretion. Ano-proctoscopy reported deformed anal canal with bleeding mucosa, large fleshy ulcers mucosa. Ileo-colonoscopy with biopsies revealed ileal and caecal abnormalities with severe inflammatory activity consistent with Crohn’s disease (CD).
Contrast-enhanced CT showed diffusely thickened colon with mural stratification and mucosal enhancement consistent with endoscopic and bioptic diagnosis of extensive ileocolic Crohn’s disease. Minimal ascitic fluid was present. A vast heterogeneous, largely necrotic anal mass was detected, infiltrating the posterior aspect of the vagina and associated with a fluid-containing trans-sphincteric fistula crossing the left ischioanal space. Following neo-adjuvant chemotherapy, surgery included Miles abdomino-perineal anorectal amputation, colpo-hysterectomy, and permanent colostomy. Histology of surgical specimen reported anus, perianal skin and rectum with large (8x6x6 cm) brownish solid exophytic mass abutting the pectineal line, corresponding to transmural moderately differentiated mucinous adenocarcinoma invading the posterior vagina.

Discussion:
Similarly to ulcerative colitis but to a lesser extent, Crohn’s disease (CD) is associated with an increased risk of intestinal malignancy, both of the small and large bowel. Adenocarcinomas usually occur in patients with extensive colonic inflammatory involvement [1]. Furthermore, carcinoma of the anus and lower rectum has been reported in patients with perianal fistulising CD, related to an early onset and prolonged duration of the chronic inflammatory bowel disease; notably 50% of cases have the otherwise rare but more aggressive mucinous histotype [1, 2]. Pathogenesis has been hypothesised to include fistulas easing access of HPV to epithelial layers, and chronic mucosal regeneration ultimately leading to neoplastic changes [1, 2]. Diagnosis of anorectal cancer arising in CD occurs at a younger age than in the general population, and is usually delayed or unsuspected because of unspecific symptoms in severe, chronic perianal inflammation with stricture and pre-existent pain. Therefore, in patients with longstanding CD, new or changed complaints or clinical findings should be investigated with care, including imaging and biopsy as needed, to avoid misdiagnosis of cancer [1-3]. Following clinical diagnosis and bioptic confirmation, imaging is needed to evaluate the local extent of the lesion,
lymph node involvement and possible invasion of adjacent organs. CT sufficiently visualises perianal soft tissue corresponding to cancer, whereas MRI with phased-array coils currently represents the imaging modality of choice for local staging and post-treatment follow-up [4, 5]. Imaging also proves useful to differentiate anal carcinoma from other uncommon benign and malignant abnormalities lesions arising inferior to the pelvic diaphragm, that usually manifest with similar symptoms and swelling or mass [6].

Anorectal cancers in CD patients are treated with proctocolectomy, often associated with chemo- and radiotherapy, and prognosis is often severe due to delayed diagnosis and biological aggressiveness [1]. Radiologists should be aware of the increased risk for anal and colorectal cancer in middle-aged patients with longstanding CD. When performing and interpreting intestinal or pelvic-perianal cross-sectional imaging studies, an unexpected findings of anorectal solid tissue should be clearly reported as suspicious for neoplasm and biopsy suggested.

**Differential Diagnosis List:** Mucinous anorectal adenocarcinoma in perianal fistulising Crohn's disease, Perianal Crohn's inflammatory disease, Pyomyositis, Proctitis, Syphilis, Endometriosis, Lymphoma

**Final Diagnosis:** Mucinous anorectal adenocarcinoma in perianal fistulising Crohn's disease

**References:**


Description: Axial enhanced image shows collapsed, thickened transverse colon with mural stratification and mucosal enhancement consistent with endoscopic and bioptic diagnosis of ileocolic Crohn’s disease. Origin: Tonolini Massimo, Department of Radiology, “Luigi Sacco” University Hospital – Milan (Italy)
**Description:** In the pelvis minimal ascitic fluid is present. **Origin:** Tonolini Massimo, Department of Radiology, “Luigi Sacco” University Hospital – Milan (Italy)
**Description:** In the anatomic site of the anus, a large heterogeneous partly necrotic mass lesion is seen, infiltrating the posterior aspect of the vagina. **Origin:** Tonolini Massimo, Department of Radiology, "Luigi Sacco" University Hospital – Milan (Italy)
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Description: The anal lesion is associated with a fairly wide fluid-containing trans-sphincteric fistula crossing the left ischioanal space (arrowheads). Origin: Tonolini Massimo, Department of Radiology, "Luigi Sacco" University Hospital – Milan (Italy)
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