Granulomatous appendicitis: a perioperative challenge

Nicola Colucci ^{1,2}, Jérémy Meyer,¹ Giacomo Puppa,³ Christian Toso¹

¹Department of Surgery, Division of Digestive Surgery, Geneva University Hospitals, Geneva, Switzerland

²Department of Clinical-Surgical, Diagnostic and Pediatric Sciences, University of Pavia, Pavia, Italy

³Department of Clinical Pathology, Geneva University Hospitals, Geneva, Switzerland

Correspondence to

Dr Nicola Colucci;
n.colucci@outlook.it

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DESCRIPTION

A 24-year-old healthy man presented with acute abdominal pain localised to the right iliac fossa since 24 hours. Rebound tenderness was present in the right lower quadrant. Blood tests showed a mild elevation of C-reactive protein (26.5 mg/L) and a normochromic normocytic anaemia (haemoglobin level of 121 g/L). CT scan revealed a fluid-filled, dilated appendix. Indication for laparoscopic appendectomy was given. Intraoperative semiology was evocative of a mucocoele, and a mucoid-like plug was found on the appendiceal serosa (figure 1). An appendectomy with complete mesoappendix resection and caecal fundus stapling was therefore performed. No other pathological findings were found during laparoscopy. Histological analysis did not find any mucoid lesion but showed an acute on chronic granulomatous appendicitis, with transmural, Crohn-like inflammation (figure 2). Granulomas were non-necrotic, and consisted of epithelioid and multinucleated giant cells, distributed from mucosa to subserosa (figure 3). The perioperative hypothesis of a mucinous epithelial neoplasm was discarded: moreover, the peritoneal lavage cytological examination was negative. The post-operative period was uneventful and the patient returned to full duty 2 weeks after surgery. He underwent an ileocolonoscopy on postoperative week 6, which was unremarkable, and he was doing well 6 months later.

According to geographic areas, acute granulomatous appendix is found in 0.14%–2.3% of all appendectomies.¹ In case of transmural granulomatous inflammation, the perioperative presentation can mimic an appendiceal mucinous neoplasm. In case of doubt, a caecal wedge resection appendectomy with complete mesoappendix resection should be performed, by strictly avoiding to perforate the suspected mucocoele.²

Figure 1 Laparoscopy showing a dilated appendix with a mucoid-like plug on the appendiceal serosa.

Figure 2 Subserosal layer of the appendix wall expanded by a heavy edematous, suppurative and fibrinous inflammation.

The main aetiologies of granulomatous appendicitis are infectious (*Yersinia pseudotuberculosis*, *Mycobacterium tuberculosis*, fungi and parasites), inflammatory (foreign bodies reaction), mechanical (obstruction secondary to a faecal stone, a mucocoele or an appendix tumour) or related to systemic conditions (Crohn's disease and sarcoidosis).³ Delayed appendectomy performed after conservative management of a perforated appendicitis is also related to marked granulomatous features, with a Crohn-like transmural inflammation pattern. Interestingly, this pathologic aspect is rare in acute appendectomies.⁴ Although it is possible to find in the literature several cases of granulomatous appendicitis attributed to Crohn's disease, the clinical course is generally favourable and could suggest a distinct nosological entity.⁵ Nevertheless, ileocolonoscopy should be performed to rule out Crohn's disease in patients complaining of suggestive clinical clues

Figure 3 Several non-necrotic granulomas, made of epithelioid and multinucleated giant cells (black arrows).

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Patient's perspective

The intervention went well, and I was happy to restart biking and doing my physical routine 2 weeks later. I was initially concerned by the idea of being affected by a cancer, because this possibility was raised by the surgeons in response to the presence of mucus around my appendix. Then, the pathology report showed a 'granulomatous appendicitis'. Even if I was explained of the potential connection to Crohn's disease, I was feeling great and such an eventuality seemed improbable to me. The colonoscopy confirmed that there was nothing to worry about, but I am clearly aware of the importance of being followed-up. I am glad to share my case, in order to sensibilise surgeons about this rare condition.

Learning points

- Granulomatous appendicitis is a rare presentation of a common condition that could mimic perioperatively appendiceal mucinous neoplasm.
- Patients diagnosed with granulomatous appendicitis presenting Crohn-like features should undergo a systematic ileocolonoscopy to rule out Crohn's disease.

or presenting Crohn-like features on pathology. In patients otherwise asymptomatic or with no Crohn-like lesions, a clinical follow-up may be sufficient.

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ORCID iD

Nicola Colucci <http://orcid.org/0000-0003-4939-981X>

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