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Acute Appendicitis in the Context of Undescended Cecum: Laparoscopic Management with Restoration of the Orthotopic Anatomy

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ABSTRACT

Undescended cecum is a rare congenital abnormality; upon development of acute appendicitis though, the high position of the cecum results in atypical clinical symptomatology. We present a rare case of appendicitis in a patient with undescended cecum, which we managed laparoscopically, combining the appendicectomy with orthotopic repositioning of the cecum.
Key words: laparoscopy, malrotation, undescended cecum, emergency, surgery

CASE PRESENTATION

A 26-year old Caucasian female patient presented to our surgical admissions unit with short history of abdominal pain in the right hypogastrium, radiating to the right flank. Provisional diagnosis was that of renal colic and hence an urgent abdominopelvic computed tomography (CT) uncontrasted scan was performed. The latter revealed the presence of appendicitis, with the cecum being in a subhepatic position, raising the suspicion of malrotation. An accessory right colic artery was also identified, arising from the ileocolic arterial trunk, along which a number of prominent mesenteric lymph nodes were detected; the overall findings were in consistency with the presence of a fully undescended cecum (*fig. 1*).

During subsequent diagnostic laparoscopy, we identified an undescended cecum in subhepatic position, entrapped by a band of connective tissue, which was extending between the inferior edge of the liver to the mesentery of the right colon; the latter was extending caudally, with no evidence of volvulus or vascular compromise. The appendix was moderately inflamed in accordance to the preoperative CT findings. After division of the congenital connective tissue band we were able to place the right colon back in its orthotopic position and the operation was concluded with performance of laparoscopic appendicectomy (*fig. 2*). The patient had an uneventful recovery and was discharged in a stable condition.

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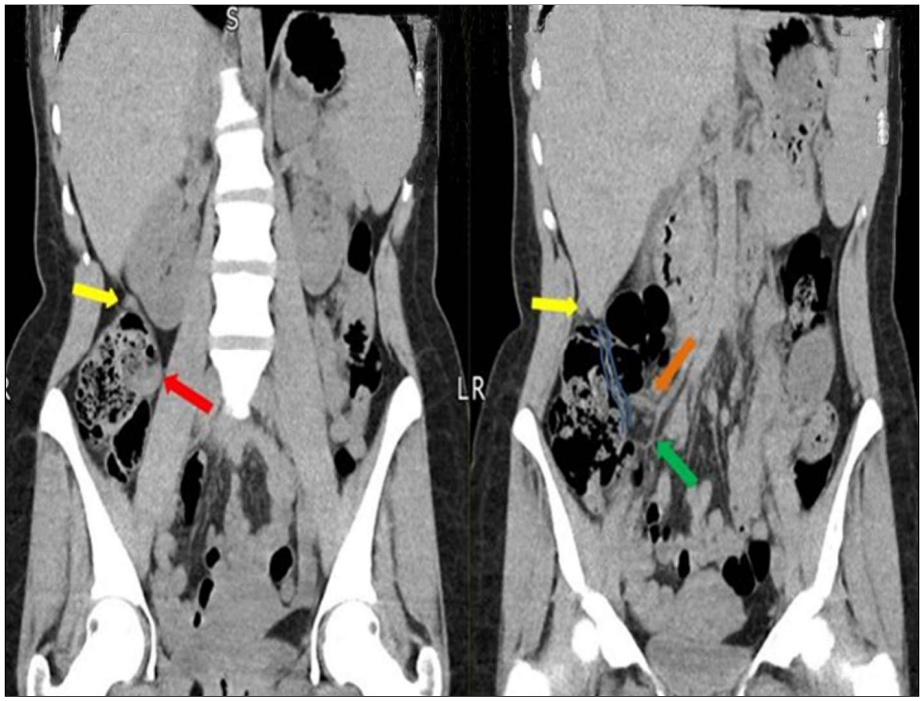

Figure 1 - Coronal view of the preoperative CT scan showing the cecal pole with the inflamed appendix (yellow arrows) and the ileocecal valve (red arrow) in subhepatic position. Note the presence of an accessory right colic artery (green arrow) arising from the ileocolic pedicle (brown arrow). Reflecting on the laparoscopy findings, the impression of the congenital band which had entrapped the cecum subhepatically, can be seen between the drawn parallel blue lines

Our case highlights that intestinal malrotations, although rare, can result in atypical symptomatology of common surgical pathologies, such as appendicitis (1,2). We advocate the liberal use of laparoscopy upon relevant clinical/radiological suspicion, with both diagnostic and therapeutic intent.

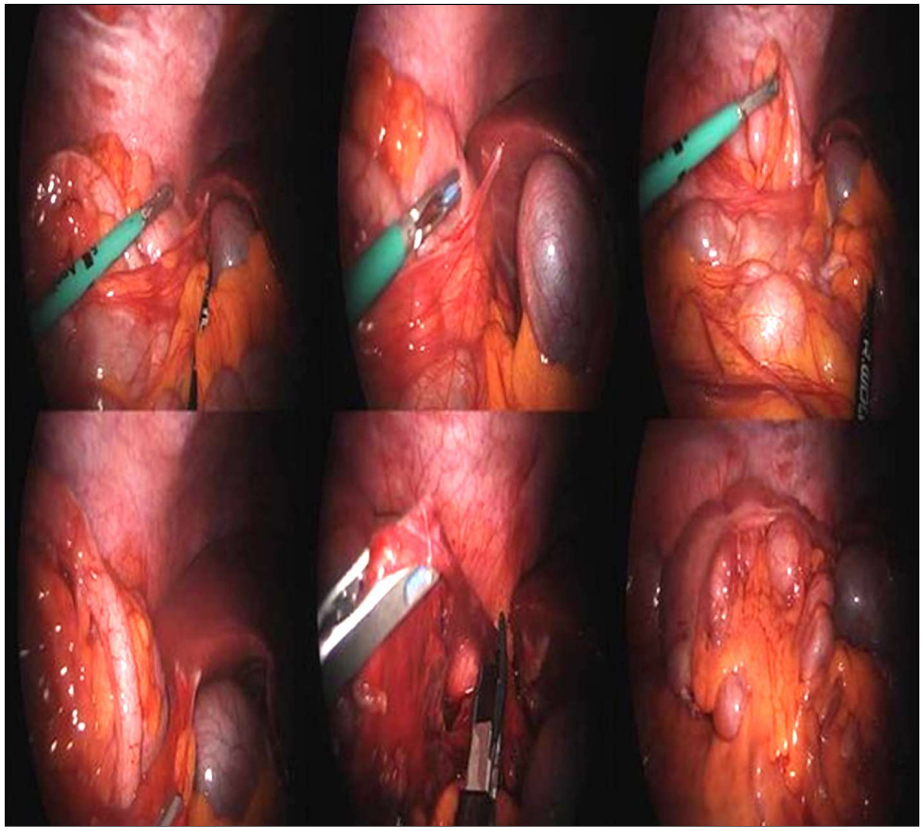

Figure 2 - Compilation of the key findings and major steps of the laparoscopic operation, with clear demonstration of the undescended cecum in a subhepatic position, entrapped by a congenital band of tissue extending between the inferior edge of the liver to the mesentery of the right colon

Author contributions

CP, KN: contributed to the clinical data collection and prepared the case report; CS: contributed to the design of the case report presentation and performed the final revision of the manuscript.

Conflict of interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical approval

All procedures performed were in accordance with the ethical standards of the 1964 Helsinki Declaration and its later amendments.

Key Clinical Message

Undescended cecum is an uncommon type of anatomical congenital variation, which can rarely result in the manifestation of acute appendicitis with atypical symptomatology.

Data Availability Statement

The authors declare that the supporting data for this case presentation are presented within the manuscript.

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