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CASE REPORT

Laparoscopic mesh repair of a para-appendicostomal hernia

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Introduction

Appendicostomies facilitate provision of antegrade colonic enemas in adults experiencing chronic constipation, faecal incontinence or both. Late complications include infection, stenosis or stricturing. This case report describes the emergency attendance of a 48-year-old woman presenting with sudden onset of periumbilical central abdominal pain associated with inability to intubate her appendicostomy, performed 7 years previously for slow transit constipation. Upon further workup, a late but significant complication of a para-appendicostomal hernia was noted. This has not been previously described in either adults or children within the literature. This article outlines the surgical management of this case, with the take-home message that para-appendicostomal hernias are not widely reported as a late complication.

Discussion

Adults suffering from chronic constipation, faecal incontinence or both can use an appendicostomy for administering antegrade colonic enemas. Since its first description by

Case report

A 48-year-old woman attended the emergency department complaining of an acute, 1-day history of sudden-onset central abdominal pain, localised to the periumbilical region. She noticed a tender new lump in the umbilical region that coincided with the onset of pain. The lump was in the region of her appendicostomy and the patient had not been able to intubate her appendicostomy after symptom onset. There were no symptoms of bowel obstruction and she was systemically well. In 2010, 8 years before her acute admission, the patient had a percutaneous endoscopic colostomy port inserted following diagnosis of chronic slow transit constipation. Repeated blockage of the port led to the joint decision between patient and clinician to proceed with appendicostomy formation. This procedure was completed laparoscopically in 2014, at which point no umbilical hernia was noted intraoperatively. No postoperative complications were noted in the medical records at regular 6-monthly follow up for 2 years.

At the time of emergency admission, the patient denied history of trauma, exertion, chronic cough, smoking or recent surgery. On clinical examination, the patient was systemically well with a non-distended abdomen and a body mass index of 29 kg/m^2. Tenderness of the peri-umbilical region was associated with a palpable, irreducible lump with no overlying skin changes. Abdominal computed tomography revealed a para-appendicostomal hernia within the umbilicus containing omental fat (Figure 1). There was no radiological evidence of bowel obstruction.

Continued failure to intubate the appendicostomy in hospital warranted surgical intervention. Diagnostic laparoscopy confirmed the computed tomography findings (Figure 2a) and a viable appendix was noted. A laparoscopic mesh repair was performed after reduction of hernia sac contents. The rectangular Ventralight ST mesh (Bard, Warwick, USA) was cut into a circular disc shape before a keyhole-type midline slit was made to accommodate the appendix (Figure 2b). A CapSure permanent fixation system (Bard, Warwick, USA) was used intraperitoneally to anchor the mesh in position (Figure 2c).

After successfully self-administering an anterograde enema postoperatively the patient was discharged home. At her 6-week postoperative follow up, the patient complained of some sharp left upper quadrant pain localised in the region of the eighth rib, in the midclavicular line. Repeat computed tomography failed to demonstrate a cause for her symptoms (Figure 3), so the patient underwent a diagnostic laparoscopy which confirmed that the mesh repair was intact, and that there was no cause for these symptoms. She was subsequently discharged and remained pain free, with no postoperative complications noted at 1-year follow-up.

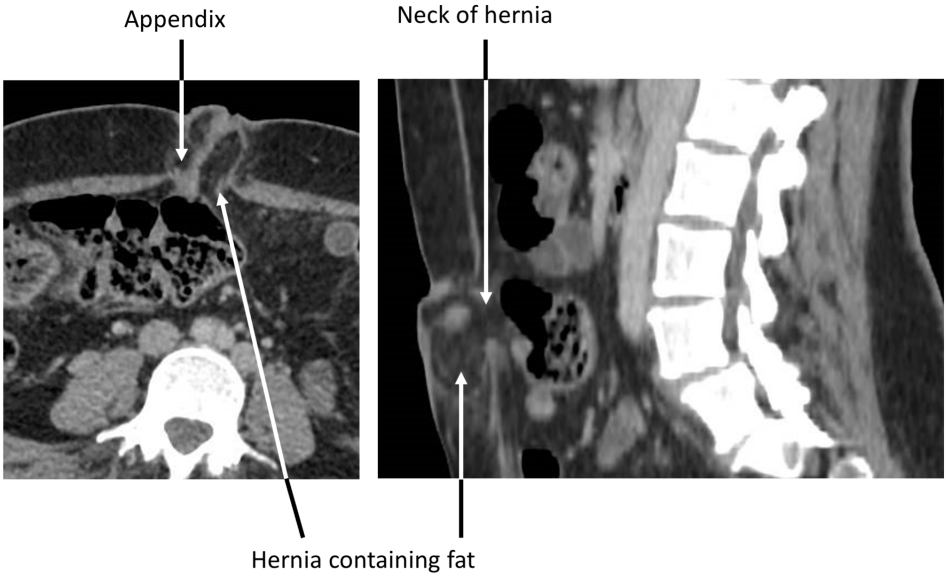

Figure 1. Axial and coronal computed tomography images of the abdomen demonstrating the fat-containing para-appendicostomal hernia.

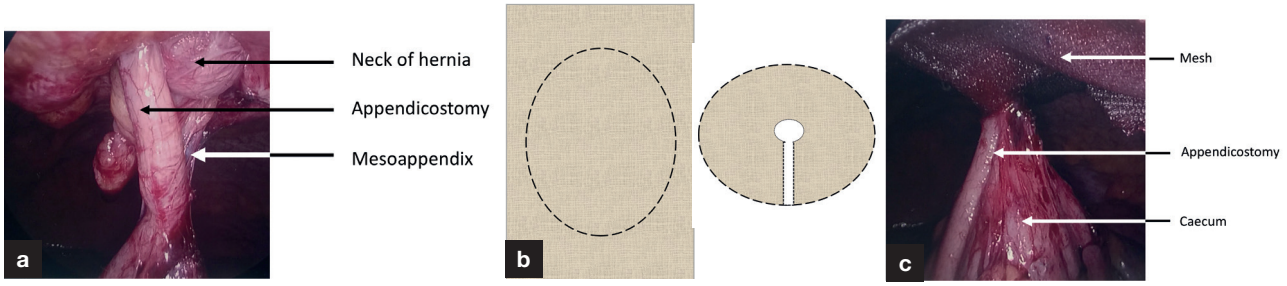

Figure 2. a. Laparoscopic view of the appendicostomy and hernia sac. b. The two-step technique used for trimming the mesh to allow safe and effective placement around the appendicostomy. c. Intraoperative view of the mesh in situ.

Malone et al in 1990, there have been multiple variations in performing an appendicostomy (Graf et al, 1998). Early local complications of appendicostomy formation include infection, via falsa and conduit necrosis (Malone et al, 1990). A well-known, long-term complication is stenosis or stricturing causing difficult intubation and revision requiring other stoma formation. A seldom but serious complication is perforation (Malone et al, 1990), usually as a result of traumatic catheterisation. The authors report, to the best of their knowledge, the first case of a para-appendicostomal hernia as a late complication of the procedure.

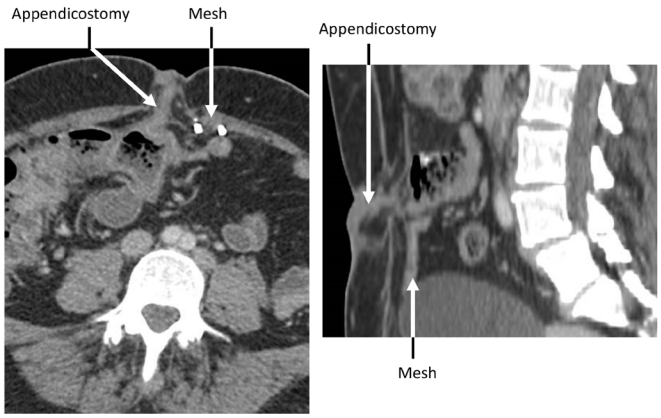

Figure 3. Axial and coronal computed tomography images of the abdomen confirming satisfactory mesh position and absence of hernia recurrence.

Learning points

- Para-stomal hernia can be a late complication of appendicostomy formation.
- Minimal access surgery can be used successfully to treat an acute para-appendicostomal hernia in order to preserve conduit function.

It could be argued that this could be classified as an incisional hernia. However, the appendicostomy was brought through the umbilicus via a small stab incision at the time of formation and a hernia was absent at subsequent postoperative follow up until the sudden onset of the patient's symptoms 6 years after the initial procedure. Owing to the patient's symptoms and medical history, minimal access surgery was the preferred option to assess the contents of the sac, to maintain viability of the appendicostomy, and also to afford enhanced postoperative recovery. Laparoscopic mesh repair is an effective technique for ventral abdominal wall hernias (Bedi et al, 2007) and was thus selected for the management of this para-appendicostomal hernia.

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References

Bedi A, Bhatti T, Amin A, Zuberi J. Laparoscopic incisional and ventral hernia repair. J Min Access Surg. 2007;3(3):83–90. https://doi.org/10.4103/0972-9941.37190

Graf JL, Strear C, Bratton B et al. The antegrade continence enema procedure: A review of the literature. J Pediatr Surg. 1998;33(8):1294–1296. https://doi.org/10.1016/S0022-3468(98)90172-5

Malone P, Ransley P, Kiely E. Preliminary report: the antegrade continence enema. Lancet. 1990;336(8725):1217–1218. https://doi.org/10.1016/0140-6736(90)92834-5