Perineal hernia following abdominoperineal excision of rectum

Introduction

Perineal hernias are a rare complication of abdominoperineal excision of the rectum with a prevalence of 0.3% (Aboian et al, 2006). Clinical presentation is commonly as a reducible swelling in the perineum with a positive cough impulse which may cause pain.

Discussion

Perineal hernias secondary to abdominoperineal excision of the rectum are rare and typically present as asymptomatic, reducible perineal swellings with an associated 'dragging' sensation and discomfort on standing. Occasionally they may present with bowel obstruction or urinary symptoms (Aboian et al, 2006).

Secondary perineal hernias most commonly present within the first year after operation and are more common in females (Brotschi et al, 1985). Smoking, the patient's nutritional status, radiotherapy and chemotherapy, female gender, and rectal cancer have been suggested as additional risk factors that play a part in development of secondary perineal hernias (Skipworth et al, 2007). Secondary perineal hernias are anatomically further subclassified into anterior and posterior in relation to the transverse perineal muscle, with the former only occurring in women (Howard et al, 2000). Normally perineal hernia contents consist of either bowel or omentum, but atypical contents such as leiomyoma have been described (Skipworth et al, 2007).

It may be possible to prevent this complication first by using a strong suture material to approximate the levator ani muscles, making sure adequate tissue bites are taken, and also by prevention of wound collections which may become infected and result in wound opening by placement of a drain. Finally, in cases where oncological resection result in a large defect, it is important to consider the use of a soft tissue flap or a prophylactic biosynthetic mesh. Furthermore, presence of the uterus tends to occlude the pelvic inlet and reduce the potential for recurrence.

Management includes a conservative approach for asymptomatic hernias, with discomfort often improving with T bandage or wearing a firm pair of underpants (Brotschi et al, 1985). Surgical repair may be undertaken through transabdominal, perineal, combined abdominoperineal or laparoscopic approaches, with pelvic floor reconstruction. A synthetic mesh repair has been described (Ghellai et al, 2002). Surgical repair is not without risk, however, and has a 15–40% risk of complications such as mesh infection and fistula formation. BJHM

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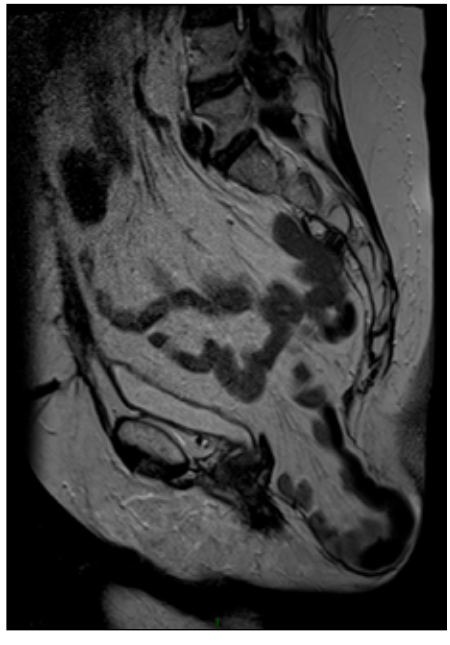
Aboian E, Winter DC, Metcalf DR, Wolff BG (2006) Perineal hernia after proctectomy: prevalence, risks, and management. *Dis Colon Rectum* **49**(10): 1564–8

Brotschi E, Noe JM, Silen W (1985) Perineal hernia after proctectomy. *Am J Surg* **149**: 301–5

Figure 1. Perineal hernia defect with the patient lying in the left lateral position.

Figure 2. Magnetic resonance imaging scan showing the perineal hernia containing small bowel contents.



Case Report

A 70-year-old Caucasian woman underwent neo-adjuvant long course chemo-radiation followed by an abdominoperineal excision of the rectum for a pT3, N0, Mx low rectal cancer. Following tumour excision, care was taken to place omentum in the pelvis between the small bowel and pelvic floor closure. The pelvic floor was closed perineally with interrupted 0 coated Vicryl (Ethicon Inc.) and interrupted nylon (Ethilon) to skin. It is not the authors' routine practice to use synthetic or organic meshes in this closure, nor was the defect large enough to require a myocutaneous flap.

At 14 months follow up, the patient presented with a painless perineal swelling which was more noticeable on standing (*Figure 1*). A physical examination revealed this to be a soft and reducible midline lump under the perineal abdominoperineal excision of the rectum scar. A magnetic resonance imaging scan confirmed this to be a perineal hernia containing small bowel loops (*Figure 2*).

Ghellai AM, Islam S, Stoker ME (2002) Laparoscopic repair of postoperative perineal hernia. *Surg Laparosc Endosc Percutan Tech* **12**: 119–21

Howard FM, Perry PC, Carter JE (2000) *Pelvic Pain: Diagnosis and Management.* Lippincott Williams & Wilkins, Baltimore: 393

Skipworth RJ, Smith GH, Anderson DN (2007) Secondary perineal hernia following open abdominoperineal excision of the rectum: report of a case and review of the literature. *Hernia* **11**(6): 541–5

LEARNING POINTS

- Perineal hernias are rare complications of abdominoperineal excision of the rectum.
- Risk factors include female gender, smoking, radiotherapy, chemotherapy and rectal cancer.
- Every attempt should be made to prevent this complication at primary operation through secure tension-free closure.
- If asymptomatic, perineal hernias can be treated conservatively or repaired surgically, although there is a 15–40% risk of complications.

Metastatic cerebral calcification

A 78-year-old man was referred to the author's emergency department because he had developed hypotension during haemodialysis. On examination, he appeared drowsy without focal neurological deficit. A brain computed tomography scan showed prominent diffuse calcification over the supratentorial hemisphere (*Figure 1*). His family denied trauma or previous stroke history, but he had a history of persistent hypercalcaemia and hyperphosphataemia over the last 3 years (*Figure 2*). A brain computed tomography scan taken 4 years previously did not show any calcification. He was admitted for health care-associated pneumonia with septic shock, and had an uneventful course after intensive care.

The origin of cerebral calcification can be divided into two categories: with or without calcium, phosphate or parathyroid hormone abnormalities. Congenital diseases such as Down syndrome or sporadic Fahr syndrome may be the culprit (Baba et al, 2005), but in this patient it is likely to have been caused by dysregulated calcium–phosphate balance. Dialysate adjustment and sevelamer was instituted. He remained neurologically intact during his admission and several months later after discharge. BJHM

Baba Y, Broderick DF, Uitti RJ et al (2005) Heredofamilial brain calcinosis syndrome. *Mayo Clin Proc* **80**: 641–51

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Figure 1. a. Prominent calcification over the right temporal, parietal lobe and left periventricular area is shown, with irregular shape, involving both cortical gray and white matter. b. Calcification over the high frontal area is also shown.

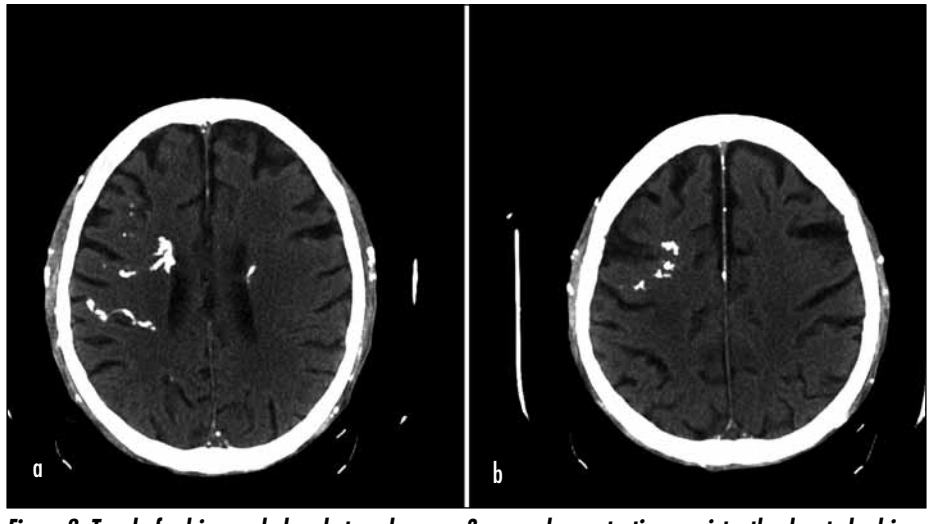

Figure 2. Trend of calcium and phosphate value over 3 years, demonstrating persistently elevated calcium level with fluctuated phosphate status.