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Case Report

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A Rare Complication and Unexpected Pathology Following an Anterior Exenteration - A Case Report

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Abstract

We present a case report of an unexpected pathology in addition to a rare complication in a 62-year-old female following an anterior exenteration and an abdominal wall reconstruction. Initial biopsies characterised the malignancy as a potential urachal adenocarcinoma, but the final pathology revealed a solitary endometrial adenocarcinoma metastasis from endometrial cancer 6 years previously. Due to the nature of the tumour, an abdominal wall resection was required, and reconstruction involved a pedicled thigh flap. Post-operatively the small bowel herniated under the flap resulting in true mechanical small bowel obstruction.

Case Report

A 62-year-old female initially presented to her General Practitioner with pressure-like lower abdominal discomfort. On examination, she had a small palpable suprapubic mass, located just distal to a previous umbilical laparoscope port, and urinalysis revealed non-visible haematuria. Full blood count and biochemistry were unremarkable, with no further positive findings. The patient's past medical history included a total laparoscopic hysterectomy and bilateral salpingo-oopherectomy for stage 1A endometrial cancer, followed by vaginal brachytherapy. This occurred 6 years prior, and she had recently been discharged from gynaecological follow up with no evidence of tumour recurrence.

A flexible cystoscopy and an abdominal ultrasound revealed no abnormality. A contrast CT revealed a 5 x 5 x 4 cm mixed density mass superior to, and inseparable from the bladder, it appeared to be invading the anterior abdominal wall muscles Figure 1.

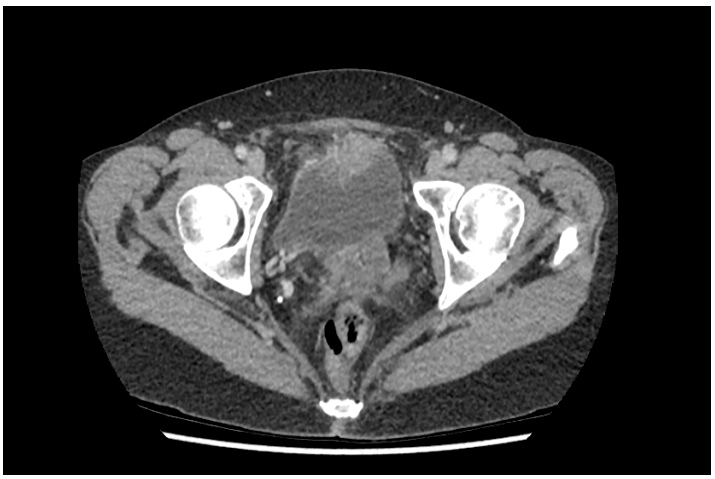

Figure 1: Axial CT image showing a mixed density mass superior to the bladder.

The mass was separate from the bowel, and suspicions were raised regarding recurrence of the previous gynaecological malignancy. However, a CT-guided biopsy from the mass showed no morphological similarity to the previous endometrial tumour. The histological appearances were most reminiscent of urothelium – raising the suspicion of urachal malignancy. Following discussion at the urology multi-disciplinary team meeting, the patient underwent an anterior exenteration, ileal conduit and a right pedicled anterolateral thigh - vastus lateralis (ALT-VL) flap for anterior abdominal wall reconstruction. This was a joint case with the plastic surgery team and the procedure, though technically challenging, was performed without complication.

Immediate post-operative recovery was satisfactory. On day 6 the patient became agitated and was tachypnoeic and tachycardic, with a poor urine output. On examination, she had a distended tympanic abdomen and appeared to be hypo perfused. The patient was fluid resuscitated, a nasogastric tube drained 2L of bilious fluid and antibiotics were commenced. An urgent CT revealed a small bowel obstruction secondary to an internally herniated loop of bowel tunnelled under the ALT-VL flap (Figure 2). This was not palpable on examination.

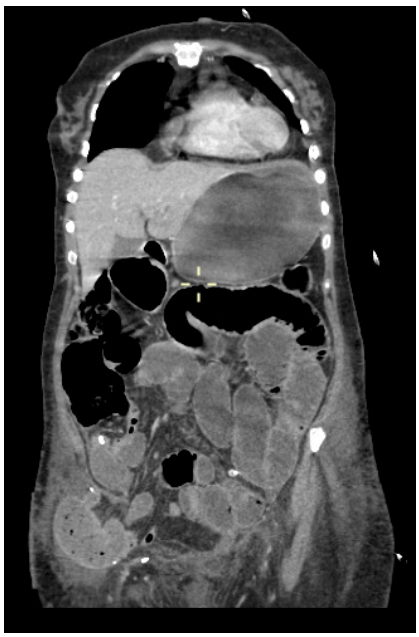

Figure 2: Coronal CT image showing small bowel obstruction secondary to an internally herniated loop of bowel into the right thigh.

An emergency laparotomy was performed. The small bowel was deemed viable, but the pedicled flap had suffered venous infarction due to the small bowel compressing the venous drainage of the flap in the tunnel under inguinal ligament where the flap was brought through. The flap was therefore non-viable and excised. The abdominal wall deficit was closed with a surgical implant derived from animal tissue. The patient made a slow but steady recovery and was discharged 20 days post initial procedure. Final pathology revealed a solid tumour 95 x 71 x 53 mm, predominantly within connective tissue invading bladder dome, with a glandular morphology consistent with adenocarcinoma. The bladder wall mucosa was unremarkable, explaining why the tumour was not visible at flexible cystoscopy. Margins were negative.

The morphological features were similar to previously excised endometrial adenocarcinoma and it was determined to be an undifferentiated carcinoma, with features most in keeping with metastasis from endometrioid adenocarcinoma.

Discussion

Functional bowel obstruction (paralytic ileus) is common following cystectomy operations (estimated up to 30% of patients) and is known to be multifactorial, caused by both patient factors (electrolyte disturbances, dehydration) and operative factors (handling of bowel, resection of bowel segment for creation of ileal conduit). True mechanical small bowel obstruction is, however, much less common, and studies have shown rates of early (<30 days) post-operative small bowel obstruction of around 3%[1,2]. A previous study by Varkarakis et al. showed the most common causes of early small bowel obstruction causes being anastomotic malfunctions and adhesions, they interestingly also reported on two cases of internal hernias. Commonly, these internal hernias can arise either through the mesenteric defects and/or near the pelvic structures (e.g. as documented in the case reports where the internal hernia was caused by or located around the ureter) [3]. In our case, however, the internal hernia arose due to a loop of small bowel tunneling underneath the raised thigh flap, and towards the thigh itself. The risk of this particular complication arose from the extensive nature of the operation and also the complexity, which required input from both plastic surgeons and urologists.

This case report shows an internal hernia which had tunnelled into the anterolateral compartment of thigh by herniating underneath the raised thigh flap. This arose due to the extensive resection and complexity of the reconstruction. To our knowledge this is the first reported case of small bowel obstruction after cystectomy caused by an internally herniated loop of bowel underneath a pedicled thigh flap. Initially thought to be a urachal tumour due to position and biopsy, final pathology revealed endometrial adenocarcinoma metastasis likely to be a Port Site Metastasis (PSM). Although rare, PSMs are an acknowledged complication from gynaecological laparoscopic surgery, and indeed from laparoscopic surgery to remove any intra-abdominal malignancy. Our patient, as mentioned above, underwent a total laparoscopic hysterectomy and bilateral salpingo-oophorectomy with umbilical port site access used to establish pneumoperitoneum.

Only 23 cases of endometrial cancer port site metastases have been reported in previous literature [4]. In one of the largest studies of its kind, there was a reported incidence of 1.18% for port site metastases in patients undergoing laparoscopic management of intra-abdominal malignancies. In only 5% were these isolated metastases, with most patients suffering extensively disseminated disease [5]. Although rare, as described above, a port-site metastasis has been considered as the possible underlying cause for the delayed presentation of this large mass in our case study. Likewise, urachal malignancies are also rare, they commonly invade the bladder dome and comprise less than 1% of all bladder cancers [6]. The urachal carcinoma diagnostic criteria are not absolute, however one of the most commonly used criteria is by Sheldon et al. [7]. There are 6 main points using this criteria to make a diagnosis of urachal carcinoma, and the case discussed above does not correlate with the majority of the diagnostic criteria. A urachal carcinoma was the initial differential diagnosis post CT-guided biopsy, however the final specimen pathology proved otherwise given the morphological similarity to the previously excised endometroid endometrial carcinoma in the excised whole tumour specimen.

Conclusion

This is an unusual case in terms of pathology and post-operative complications. It adds to the current literature base in terms of potential complications following complex anterior exenteration. Furthermore, this case acts as a reminder of the possibility of port site metastases.

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