CASE REPORT

A mesh masquerading as malignancy: a cancer misdiagnosed

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SUMMARY

After a positive faecal occult blood test, a 60-year-old woman underwent a screening colonoscopy which identified a malignant-looking ulcer in the ascending colon. Biopsies from the lesion were inconclusive. A subsequent CT scan of the abdomen and pelvis commented on a polypoid lesion in the ascending colon. A colorectal cancer multidisciplinary team discussion concluded that a right hemicolectomy was indicated as the lesion was suspicious for malignancy. Intraoperatively, there was a firm ascending colon mass adherent to the abdominal wall, which was resected with clear margins. There were no other complications, and the patient was discharged without further issues. Histopathology from the retrieved specimen revealed a complete absence of malignancy, but rather, inflamed granulation tissue with 'reaction to foreign birefringent material'—likely to represent a mesh from an incisional hernia repair 9 years previously. The patient is currently recovering well without complication.

BACKGROUND

Bowel cancer is one of the most common cancers in the UK, and the gold standard for planning treatment is discussion at a multidisciplinary team (MDT) meeting. These meetings use information from multiple clinical and histological sources to decide on appropriate treatment.

Despite the absence of definitive histology, both the colonoscopy and CT results were sufficiently convincing of a malignancy. The combination of a polypoid lesion seen from colonoscopy, an adherent lesion in the ascending colon on CT and three prominent ileocolic lymph nodes led to a provisional diagnosis of a T4 N1 M0 adenocarcinoma of the right colon.

Use of synthetic mesh is a very common technique for repair of abdominal wall hernias. If, like our described case, these meshes can mimic an invasive cancer, then the patient's surgical history becomes a crucial element of MDT discussions.

While there is evidence in the literature that synthetic meshes can migrate and erode into viscera,^{1–5} the authors believe that this is one of the first cases where such a problem has resulted in a formal cancer diagnosis and subsequent elective surgical resection.

CASE PRESENTATION

A 60-year-old woman underwent a routine screening colonoscopy as a result of a positive faecal occult blood test; the patient was otherwise asymptomatic. During the colonoscopy, a '12mm diameter ulcerated polypoid cancer' was discovered in the ascending colon (figure 1). Biopsies were taken of the lesion, and a staging CT scan was ordered of the thorax, abdomen and pelvis (figure 2). The staging CT reported a '2.2×1.6cm polypoid lesion in the ascending colon' which was 'likely to represent the lesion identified at colonoscopy corresponding to tumour'. The patient was discussed at the colorectal MDT meeting. While the histology from the colonoscopy showed no evidence of cancer, the lesion was highly suspicious for malignancy within endoscopic and radiological criteria. It was decided that repeat endoscopy for biopsies, even if benign, would not eliminate the need for surgical resection. The patient was soon admitted for an open right hemicolectomy. During the procedure, it was discovered that there was a firm adhesional mass between the colon and the anterior abdominal wall. These two structures were almost indistinguishable at their junction, and part of the anterior abdominal wall had to be resected to ensure sufficient clearance. The right colon and a skirt of anterior abdominal wall were excised en bloc with a sufficient clearance margin, and the abdominal wall defect was closed with interrupted nylon sutures. The remainder of the operation proceeded without complication.

Figure 1 Endoscopic image of colon lesion.

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Figure 2 Axial image from the patient's pre operative CT scan.

The patient made a good recovery postoperatively and was discharged several days later without complication.

Histological analysis of the surgical specimen ([figure 3](#)) revealed 'multiple foreign body-type giant cells containing birefringent extraneous material present, both within the granulation tissue and wall of the large bowel'. The report concluded that these findings were 'likely related to previous surgery in this region (? mesh repair of incisional hernia)' and that there was 'no evidence of dysplasia or malignancy'.

Looking at the patient's surgical history 9 years previously, she had undergone an elective right-sided incisional hernia repair with a 'plug' of Prolene mesh used in the procedure. Given the histology findings, it became clear that the mesh from the repair had migrated and eroded into the ascending colon, mimicking a right-sided malignancy. This erosion could be detected not only from CT scanning but also from inside the colon on endoscopic examination.

This case is almost unique within the literature. While the authors have identified several cases of mesh eroding viscera, barely any have so convincingly imitated a cancer.

Figure 3 Histopathological specimen from the right hemicolectomy.

Learning points

- ▶ Synthetic meshes can cause erosion into viscera and associated complications.
- ▶ Meshes that erode into viscera can display elements suspicious of malignancy both on colonoscopy and on CT scanning.
- ▶ Multidisciplinary team meetings must take into account all relevant surgical and medical history for patients before deciding on surgical treatment.

OUTCOME AND FOLLOW-UP

Once histology results were available, these were discussed at length with the patient in a clinic setting. The patient was informed she would require no further cancer follow-up or chemotherapy. Several months after her operation, the patient is doing well at home and has recently returned to full-time employment.

DISCUSSION

This case, while extremely rare, is not completely unique. Other cases have described similar patterns of mesh migration and erosion of viscera.

Celik *et al*¹ describe a case where a patient suffered penetration of his colon from a mesh after transabdominal preperitoneal laparoscopic hernia repair. Goswami *et al*² described a similar case where the same procedure resulted in mesh erosion of the caecum—resulting in an eventual right hemicolectomy.

The authors are aware of one other recorded colorectal cancer diagnosis from an eroding mesh. Ojo *et al*³ describe a patient who underwent an inguinal hernia repair with a mesh 8 years before being diagnosed with a suspected colonic malignancy and undergoing a right hemicolectomy for the diagnosis.

Other cases have identified different hernia meshes to mimic both adnexal⁴ and bladder malignancy.⁵ In both of these cases, misdiagnosis has led to surgical resection.

Contributors TIW-C: Main author. FS: Involved in histopathological analysis and photography. AZ: Surgeon and contributory author. DP: contributory/senior author and surgeon in charge of the case.

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