Total mesorectal excision for cancer following ventral mesh rectopexy

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ABSTRACT

Since the introduction of ventral mesh rectopexy for rectal prolapse, concern exists as to how this may interfere with subsequent rectal cancer surgery. To our knowledge, this is the first report of total mesorectal excision for cancer after such a rectopexy. We discuss surgical technique, pitfalls encountered and oncological outcome.

KEYWORDS

Total mesorectal excision – Rectopexy

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Case history

A 62-year-old woman presented with a short history of dark red rectal bleeding. Flexible sigmoidoscopy demonstrated an ulcerating lesion arising posteriorly, 10cm from the anal verge, biopsies of which confirmed a moderately differentiated adenocarcinoma. Two years previously, she had undergone a successful laparoscopic ventral mesh rectopexy for full-thickness rectal prolapse. Her history was otherwise unremarkable. Subsequent staging radiology confirmed a small, localised malignancy without metastatic spread (Fig 1). She was offered primary surgery and underwent resection of the rectal malignancy with excision of the ventral mesh.

Dissection of the rectum off adjacent anterior structures was complicated by the Prolene® (Ethicon, Somerville, NJ, US) mesh, which had caused extensive fibrosis and anatomical distortion. In particular, towards the top and right of the rectal dissection where the mesh was attached to the sacral promontory, fibrosis had sharply kinked the right ureter medially. The ureter was carefully dissected free and preserved. Continuing caudally, the mesh had caused obliteration of the usual surgical plane. However, dissection anteriorly to the mesh provided a convenient guide in otherwise unreadable tissue and this was continued towards the pelvic floor. The remaining mesorectal excision was completed in the usual way, the rectum was divided at the pelvic floor and an end sigmoid colostomy was formed.

The decision to forego primary anastomosis was based on several factors. First, the patient's prolapse could recur, exteriorising the anastomosis. Second, any unresected mesh at the resection margin could pose an infection haz-

ard adjacent to a high risk anastomosis. Last, the hardened anterior tissue would make an unsuitable anastomotic substrate. Histological analysis of the specimen confirmed a

Figure 1 Top left (computed tomography) and bottom left (magnetic resonance imaging, T2 weighted sequence): Midline sagittal section showing ventral rectopexy mesh attached to the sacral and rectovaginal fascia (white arrows), with a small tumour arising in the midrectum (black arrow). Right: Total mesorectal excision specimen with attached mesh. Towards the top of the specimen, the mesh diverts away from the midline as it attaches to the sacral promontory; it was here that the fibrosis had drawn in the right ureter.

20mm x 25mm pT1 adenocarcinoma, which was excised completely. The patient made an uneventful recovery and was discharged six days later. There was no immediate recurrence of the prolapse.

Comment

Ventral mesh rectopexy is a safe and effective treatment for rectal prolapse, offering one of the lowest recurrence rates of available options.¹ A Prolene® mesh is secured to the anterior rectum after a deep rectovaginal separation and then again to the sacral promontory, ‘hitching up’ the rectum in the pelvis.² The peritoneum is closed over the mesh to avoid complications with the intraperitoneal structures. A fibrotic reaction occurs between the mesh and adjacent tissues, further anchoring the rectum in its anatomical position. Because of this destruction of surgical planes in an already challenging region, concern exists regarding adequate oncological surgery after ventral mesh rectopexy.

To our knowledge, this is the first report of safe, effective rectal cancer surgery in such a patient. In our case, once the anatomy had been defined and vital structures preserved, the mesh actually helped dissection; it was the associated fibrosis that made it challenging. However, the oncological success of this procedure may in part be explained by low T-stage and the tumour’s posterior position. One wonders how mesh fibrosis will interfere with curative intention in more locally advanced cases.

References

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