Robotic rectal shaving of a large invasive endometriotic plaque: A bowel-sparing approach

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ABSTRACT

We present a case of robotic-assisted excision of a large rectosigmoid endometriotic plaque in a patient with severe deep infiltrating endometriosis (DIE). MRI showed bilateral endometriomas, adenomyosis, haematosalpinges, and a 70 mm x 15 mm rectosigmoid lesion with muscularis involvement. Although lesions of this size (≥3 cm) are often considered for segmental resection, the patient was keen to avoid bowel surgery, and a conservative approach was planned. The procedure was performed using the Da Vinci robotic system at Lister Hospital, under the Endometriosis Hertfordshire service in collaboration with the colorectal surgical team. The robotic platform enabled meticulous dissection of the fibrotic plaque from the muscularis propria of the rectum without breaching the mucosa. The robotic system provided enhanced visualisation, refined instrument control, and stability, supporting precise dissection in a densely adherent pelvis. Endometriosis surgery is fundamentally about balancing disease excision with preservation of function. While laparoscopic approaches remain the standard of care in many centres, robotic assistance can be a valuable adjunct in complex cases. This case demonstrates the feasibility of bowel-sparing excision for large rectosigmoid lesions using robotic-assisted surgery, highlighting the importance of individualised planning and the evolving role of robotics in managing complex endometriosis.