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Title Page

Total Robotic Transabdominal and Transanal Total Mesorectal Excision – a video vignette

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Dear Editor,

Total Mesorectal Excision (TME) is recognised as the standard of care for the surgical management of rectal cancer [1,2]. Risk factors that adversely affect the rate of R0 resections include a narrow pelvis, male patient, locally advanced mid and distal rectal cancer, and anteriorly placed rectal cancer [1-4]. Transanal TME (TaTME) provides an ideal approach for this particular patient population, especially for optimum identification of distal resection margin. Data in the literature has supported the use of TaTME, as an alternative to laparoscopic or open TME, achieving either similar or better oncological outcomes [5,6].

The patient is positioned in a Lloyd-Davies position and the procedure commenced with the transanal approach first. A GelPOINT® path (Applied Medical, Rancho Santa Margarita, CA, USA) transanal access platform was used along with a Lone Star retractor (Lone Star Medical Products Inc, Houston, Texas, USA). Routine purse-string suture is applied with adequate distal resection margin. GelSeal cap is prepared with a diamond orientation of ports inclusive of three 8mm robotic ports, with the camera arm placed anteriorly and a posteriorly placed 8mm AirSeal® port (ConMed cooperation, Milford, Connecticut, USA). The procedure is commenced with rectal mucosa circumferential marking of the dissection plane. Full-thickness rectotomy is performed before establishing the TaTME plane posteriorly first, before proceeding laterally then anteriorly. The dissection is continued superiorly towards the peritoneal reflection, positively identifying important landmarks anteriorly, including periprostatic tissue and the endopelvic fascia, maintaining a complete mesorectal envelope. Once the peritoneal cavity is breached circumferentially, then the dissection was continued through the transabdominal approach.

Conventional robotic anterior resection and transabdominal TME is performed with mobilisation of the splenic flexure to provide a tension free anastomosis. Our preference is to extract the specimen through a Pfannenstiel incision, especially for bulky mesorectum and tight anal sphincter, in order to prevent tractional injury [7]. A conventional TaTME end-to-end colorectal anastomosis is performed with a Covidien haemorrhoidal stapler (DST Series TM Technology, Covidien, Dublin, Ireland), with a covering loop ileostomy through a right iliac fossa port site. The total operative time was 210 minutes – 50 minutes for transanal phase and 160 minutes for transabdominal phase.

We have presented a novel modification of the Da Vinci Xi robotic platform, to perform a single surgeon total robotic transabdominal TME and transanal TME. We have demonstrated the feasibility of this novel approach and the expansion of the use of the Da Vinci Xi platform.

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