

KLÍČOVÁ SLOVA

Vezikovaginální píštěl, laparoskopie, robotická chirurgie, jednoportový přístup.

SUMMARY

Schraml J, Hlavička M, Broul M, Cihlár F. Minimally invasive closure of a vesicovaginal fistula using robotic single-site surgery.

We report our experience with the closure of a vesicovaginal fistula using a highly minimally invasive technique – using a single-port approach with the da Vinci Xi robotic system: a video.

Introduction: Vesicovaginal fistulas (VVPs) are among much-feared gynaecological complications. A VVP in itself is not life-threatening for the patient, but the resulting urinary incontinence significantly impairs her quality of life. The extent and nature of urine leakage depend on the size of the VVP.

A VVP closure can be performed via both the vaginal and abdominal routes. In the era of open surgery, the vaginal approach was used as the first step due to its minimal invasiveness, and an invasive abdominal approach with laparotomy was only adopted after a failure of the vaginal approach.

The introduction of laparoscopy reduced the invasiveness of the transabdominal approach, and, due to a higher effectiveness of this procedure in comparison with the vaginal approach, laparoscopy has become the method of first choice in most centres. The subsequent introduction of robot-assisted surgery has helped to overcome some of the obstacles of classic laparoscopy, while maintaining all the advantages of minimal invasiveness (it is a higher-grade laparoscopy). This is even more enhanced when the single-port technique of the da Vinci Xi Single-Site technology is used.

Indications for and the operating procedure of a single-port robot-assisted closure of a vesicovaginal fistula: We report a 50-year-old patient who underwent laparoscopy-assisted vaginal hysterectomy with right adnexectomy. The procedure was carried out under general anaesthesia in the Trendelenburg position of 31°. We use this position by default in this type of surgery. The abdominal cavity was opened with a 25-mm semi-lunar incision at the umbilical margin and by carefully dissecting

the individual layers. Once the abdominal cavity was inspected with no pathology found, the single-site working disk was deployed into the abdomen through the incision in its folded configuration, and then unfolded and self-secured in the wound.

Using this disk, an optical port for a standard 8-mm robotic 3D camera with oblique optics and two curved 5-mm working ports for flexible robotic instruments were placed through prefabricated openings. There is one more site in the disk for an 8-mm or 10-mm assistant port; we used the 8-mm one, and completed robot docking.

The fistula location and its relation to the ureteric orifices were identified transvesically. Next, the fistula canal was resected and the vaginal wall was dissected from the bladder which was mobilized as far as possible from the vaginal wall with the fistula. Closure of the vagina and bladder was performed with non-absorbable V-LOC 90^R sutures and StratafixTM sutures on an indwelling Foley catheter Ch 20 that was kept in situ for 21 days. At our centre, removing an indwelling urinary catheter in 3 weeks' time is a standard procedure. According to the literature (1, 2, 4, 5), a catheter can be removed earlier than that (in 7 to 10 days). The abdominal drain was removed on postoperative day 2.

The total duration of surgery (skin to skin) was 135 minutes, with the robotic console time being 65 minutes.

Result: The postoperative course was uneventful. On day 21 after surgery, the indwelling catheter was removed, and since then, the patient has been completely free from urological complaints, with the umbilical scar being firm and healed to such an extent that it is unnoticeable at first glance.

Discussion: When the abdominal approach is indicated in the management of VVF, we recommend considering the use of robotic or laparoscopic approach in order to minimize the morbidity associated with major incisions. The first case of robot-assisted repair of VVF was reported by Melamud et al in 2005 (1). Since then, a number of small studies and case reports have been published (2, 3, 4, 5, 6).

Although no direct comparisons of VVF repair using robot-assisted vs. open vs. laparoscopic approach are available, the benefits of robot-assisted