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# Evisceration of the small intestine through the vagina as a rare complication after laparoscopic pectopexy

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A 63-year-old woman (gravida 2, para 2, body mass index of 34 kg/m$^2$) presented with vomiting, diarrhea, lower abdominal pain and vaginal bulging symptoms was referred to the nearest, secondary referral hospital by emergency medical care providers. The presented symptoms appeared during the routine, daily activities. The patient had undergone laparoscopic pectopexy (LP) in our tertiary medical center 14 months previously due to stage IV apical prolapse (Fig.1). Moreover, she underwent total vaginal hysterectomy (TVH) eight years prior to LP. Vaginal examination revealed a small intestine protruding from the vagina. The patient was taken urgently to the operating room. Lower midline laparotomy showed a 5-cm perforation in the vaginal vault located medial to the site of mesh insertion. The mesh continued to be affixed to the vagina, causing tension. The eviscerated small intestine was not incarcerated and could be reduced manually. The opened vaginal vault was accomplished with two layers of absorbable sutures (Vicryl 2.0). No further mesh repair or insertion was performed. The patient was discharged on postoperative day five. After two months, vaginal examination revealed an intact suture line at the vaginal vault and no evidence of apical defect recurrence or mesh-related problems.

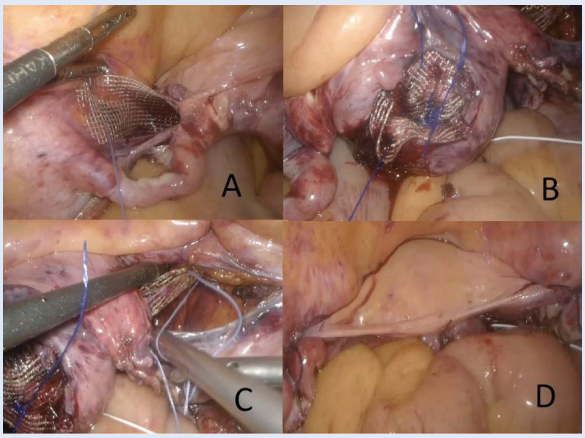


**Figure 1.** Procedure of laparoscopic pectopexy in our patient: mesh fixation to the left and right iliopectineal ligaments (**A, C**), to the vaginal vault (**B**) and the final view (**D**) just before the end of the surgery.

To the best of our knowledge, this has been the first reported case of vaginal evisceration (VE) after LP. VE is defined as the disruption of the vaginal vault and extrusion of intraperitoneal contents [1]. Its incidence ranging from 0.14% to 4.1% [2]. In our patient, VE occurred spontaneously with gradually increasing intra-abdominal pressure and a thin, atrophic vaginal wall as the possible cause. The past TVH was an additional trigger factor. The literature offers modest data about severe LP complications [3]. Complications after LP described in the literature are presented in Supplementary Material S1 (see in Supp./Additional Files).

Apical vaginal support has since become the focus of clinical research. In the light of communications published by the United States Food and Drug Administration (U.S. FDA) regarding synthetic meshes, careful attention must be paid to complications such as mesh exposure, dyspareunia, organ perforation and urinary problems. Research on a modified, uterus-preserving pelvic organ prolapse (POP) procedures, fixing the mesh or autologous grafts to the anterior abdominal wall or sacrospinous ligaments and the uterus, are ongoing [4, 5]. So far, mesh exposure after LP occurred only in one study [6].

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In POP surgery, VE is mainly reported after sacrocolpopexy [7]. During sacrocolpopexy, the Y-shaped polypropylene mesh is attached to the vaginal walls and the anterior longitudinal ligament. In LP, a polyvinylidene fluoride monofilament mesh is sutured to iliopectineal ligaments and fixed to the vaginal vault. The mesh used in sacrocolpopexy has the larger contact area between the mesh and vaginal walls as compared to LP (approx. 52.75 $cm^2$ vs 12.25 $cm^2$, respectively) (Supplementary Material S2 see in Supp./Additional Files).

VE after LP constitutes a gynecological emergency. Careful attention to restore the normal vaginal axis, with a tension-free and meticulous mesh attachment to the vaginal vault or cervix is essential to prevent VE after LP. Vaginal estrogen therapy should be considered, if not contraindicated.

### *Conflict of interest*

The authors state that there are no conflicts of interest to disclose.

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