Conflict of interest

The author has nothing to declare.

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent

Informed consent was obtained from the patient for reporting ultrasound photos.

Authors' contributions

Elagwany is the main contributor.

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Received 20 May 2019

http://dx.doi.org/10.1016/j.ejogrb.2019.05.030

Laparoscopic lateral hysterosuspension with mesh using a special device via retroperitoneal tunneling

Dear Editor,

Because of the changes in sexuality and fertility concerns over the last decade, there is a growing demand for uterine-sparing surgery to treat uterine prolapse [1]. Both laparoscopic sacral hysteropexy and lateral hysterosuspension were identified as effective treatment options for uterine prolapse. However, these procedures required long operation time and expert laparoscopic skills [2,3]. Therefore, there is a need for a short-time, minimally invasive procedure. For this purpose, a new procedure has been designed and presented.

A 34-year-old patient, with three previous vaginal births, was admitted to the gynecology clinic of a tertiary research and education hospital in Ankara, with a bulging vaginal mass. In the preoperative examination, using the Pelvic Organ Prolapse Quantification System, stage 3 uterine descent, stage 3 cystocele and low rectocele were identified (Aa: +1, Ba: +2, Ap: 0, Bp: 0, gh: 5, pb: 1, C: +4, D: +1, tvl: 8).

The procedure was performed via laparoscopy using one umbilical and three lateral ports. At the beginning of the operation, two-Y-shaped polypropylene, monofilament, macroporous meshes (Paha®, CE 1014, © 2011, Altaylar Medical, LTD. Sti, Ankara, Turkey) with two short central (2 x 4 cm) and one long arm (2 x 20 cm) were prepared. The operation was designed in three steps.

In the first step; a manipulator was applied into the uterus, the cup surrounded the cervix, and the uterus was elevated. Later, each mesh held by a special device, having a suitable concavity to the abdominal side wall towards the uterine cervix, was introduced from the lateral incisions bilaterally via retroperitoneal tunneling (Fig. 1).

In the second step; to skeletonize the cervix, vesicovaginal and rectovaginal spaces were dissected in the fascial plane to mobilize the bladder and the rectum. Anterior arms of each mesh were stitched with non-absorbable, synthetic, braided polyester surgical sutures (Multicron®, Orhan Boz AS, Ankara, Turkey) to the anterior wall of the cervix. Posterior arms were introduced to the posterior cervical wall via the tunnels formed in the broad ligament and stitched with 2 knots by the same sutures.

In the third step; the long arms of the meshes were fixed to the transverse fascia with two sutures laparoscopically (Supplementary 1).

The operation was performed using conventional trocar sites and lasted in 80 min. After the completion of this procedure, colporrhaphy anterior for cystocele and colporrhaphy posterior for rectocele were also performed regarding the limited dissection of the vesicovaginal and rectovaginal spaces, and fixing the mesh at a higher level of the cervix. Fixing the mesh at a lower level of the cervix by appropriate extensive dissection could be considered in our consecutive patients. By this way, additional colporrhaphy procedures probably will not be required. However, the quite anterior insertion and the axis of our device inevitably bend the uterine axis anteriorly, generating a posterior department decompensation. Therefore, the need for the repair of the posterior compartment should be kept in mind after the completion of our procedure. Additionally, although polyester sutures were used

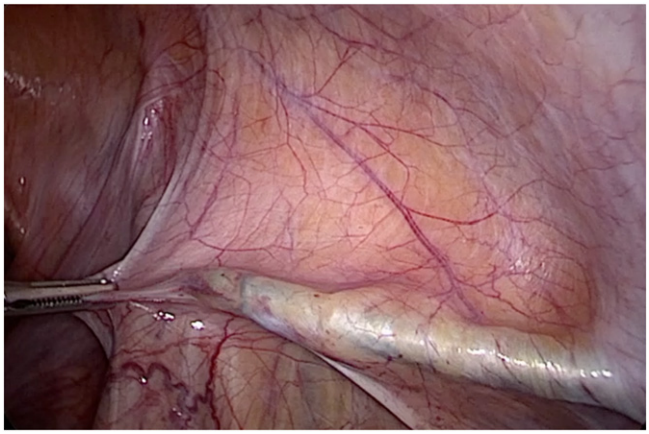

Fig. 1. Lateral application of the polypropylene mesh with a special device via retroperitoneal tunneling.

with their permanent characteristics in this case, the considerable point is that polyester sutures can cause probable significant inflammatory reactions [4], so, monofilament non-absorbable sutures may be preferable.

At the 9th-month follow-up, pelvic examination of the patient revealed normal anatomical position (Aa: -3, Ba: -3, Ap: -3, Bp: -3, gh: 2, pb: 3, C: -7, D: -9, tvl: 9) and no remarkable symptoms or no adverse events were observed.

This procedure, using a device convenient to the abdominal wall concavity, might be considered as an alternative, easy and effective option to treat sexually active women with uterine prolapse and a desire for uterine preservation.

Author contributions

Ali Riza Dogan; Surgeon, conception and design of the operation, last edition of the manuscript.

Omer Lutfi Tapisiz; Surgeon, conception and design of the operation, drafting of manuscript, last edition of the manuscript.

Derya Akdag Cirik; Drafting and writing of manuscript, last edition of the manuscript

Sadiman Kiykac Altinbas; Surgeon, conception and design of the operation, drafting of manuscript, edit of the video, last edition of the manuscript.

Conflicts of interest

The authors declare no conflict of interest.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.ejogrb.2019.05.032.

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Received 22 January 2019

http://dx.doi.org/10.1016/j.ejogrb.2019.05.032

Uterine pseudoaneurysm: A rare cause of secondary post-partum hemorrhage and its management

Dear editors,

We have recently experienced a case of postpartum haemorrhage caused by pseudoaneurysm of the left uterine artery. By publishing this report, we hope to increase the awareness amongst clinicians on this possible though rare cause of postpartum haemorrhage.

Secondary postpartum haemorrhage is defined as excessive per vaginal bleeding that occurs between 24 h to 12 weeks postnatally [1,2]. The most common causes are endometritis, retained products of conception and subinvolution of placenta implantation site [3]. Other rare but recognised causes include arteriovenous malformation and pseudoaneurysms. One study by Dohan et al found that about 3% of postpartum haemorrhage was caused by pseudoaneurysms [4].

Our patient, a 30-year-old lady in her first pregnancy underwent an uneventful caesarean section for non-reassuring foetal status and was discharged well after delivery. She was reviewed in clinic ten days after delivery and had normal lochia. However, she returned 12 weeks after delivery with complaints of torrential vaginal bleeding. Clinical examination did not reveal any vaginal or cervical lesions and the uterus was normal sized. An ultrasound revealed an endometrial thickness of 10 mm and heterogeneous structure 3.5 × 2.6 x 3.0 cm closely related to the caesarean section scar with minimal vascularity at its periphery suggestive of an organised hematoma. She was treated with oral tranexamic acid, antibiotics and oral progestogens. Her bleeding reduced significantly and she was discharged.

Four months post-delivery, she again presented to the emergency department with heavy per vaginal bleeding complicated by symptoms of anaemia, hypotension and presyncope. She had taken oral tranexamic acid which did not abate the bleeding. A repeat ultrasound showed an endometrial thickness of 12 mm and the previously noted heterogeneous structure measured 2.9 × 2.6 x 2.2 cm with some cystic areas noted within.

In view of her recurrent bleeding episodes, the team was concerned about pseudoaneurysm or arteriovenous malformation and decided to perform a CT angiography, which confirmed the presence of a focal 0.6 × 0.5 x 0.4 cm contrast filled outpouching arising from the left uterine artery within the already known hematoma likely representing a pseudoaneurysm. There was also a short 0.8 cm fluid filled tract extending from the hematoma to the lower uterine wall and into the endometrial cavity which could account for the patient's symptoms for per vaginal bleeding (Fig. 1).

Our consultant interventional radiologist was consulted to discuss further management and counselled the patient on embolization of uterine artery to abolish the bleeding. She underwent left uterine artery embolization using micro coils and gelfoam and a completion angiogram confirmed satisfactory devascularisation of the pseudoaneurysm with preserved uterine parenchymal flow (Fig. 1). Since embolization, the patient's bleeding resolved and has resumed regular menses with normal flow.

Pseudoaneurysm of the uterine artery can result in unexpected and brisk vaginal bleeding leading to anemia and even death. Clinicians may overlook this diagnosis due to its rarity and non-specific presentation on regular ultrasound examination of the uterus without applying colour doppler.

From this case, we are reminded to consider pseudoaneurysm as a differential diagnosis in a patient who presents with secondary