



Apical prolapse correction by unilateral pectineal suspension

Michael Schreibmayer^{1,2,3} · Dimitrios I. Bolovis^{1,3,4} · Cosima V. M. Brucker^{1,3}

Received: 6 March 2023 / Accepted: 1 May 2023 / Published online: 26 May 2023
© The Author(s) 2023, corrected publication 2023

Keywords UPS · Pectopexy · Unilateral pectineal suspension

Presentation

Throughout the last decades, surgical treatment of pelvic organ prolapse (POP) has been achieved by a broad variety of methods and modifications. The ongoing debate questioning the use of mesh material and its ban in several countries has encouraged research into mesh-free alternatives [1, 2]. Furthermore, preserving the uterus in the absence of uterine pathology has become an appropriate option [3]. Recently, the method of unilateral pectineal suspension (UPS) was established for uterus-preserving mesh-free apical POP correction [4]. A retrospective analysis of 47 patients revealed excellent short-term results with a subjective and objective treatment success of 93.6% as defined by a standardized composite endpoint [5].

In the image, the key steps of UPS applied to a patient with stage 2 apical prolapse as defined by the pelvic organ prolapse quantification system described by ICS/IUGA [6] are shown. The key steps are exposure of the pectineal ligament and the anterior cervix, followed by placement of a strong non-absorbable suture between the two structures to achieve a physiologic suspension of the uterus.

The anatomical landmarks for the exposure of the pectineal ligament are the obliterated umbilical artery and the round ligament. The pectineal ligament is easily exposed after peritoneal incision at the triangle between the two structures and the pelvic wall (a). The combination of an adjustable slip knot and the transvaginal manipulation of the cervix offers optimal placement of the uterus in its physiological position respecting the vaginal axis (e).

Discussion

UPS is a fully standardized and easily reproducible method to correct apical prolapse. Therefore, it is suitable for broad implementation as well as training of future pelvic floor surgeons. It can be performed in a time-efficient and, thus, also cost-efficient way, requiring less than 1 h to complete the entire procedure. Due to its minimally invasive nature, it is also a good candidate for day case surgery. The method compares favorably to other methods of POP repair, fulfilling a large panel of quality criteria for POP correction.

✉ Michael Schreibmayer
michael.schreibmayer@gmail.com

¹ University Women's Hospital, Paracelsus Medical University, Nuremberg, Germany

² Department of Obstetrics and Gynecology, Krankenhaus Barmherzige Brüder St. Veit/Glan, St. Veit an der Glan, Austria

³ Paracelsus Medical University, Salzburg, Austria

⁴ Georg Simon Ohm Technical University, Nuremberg, Germany

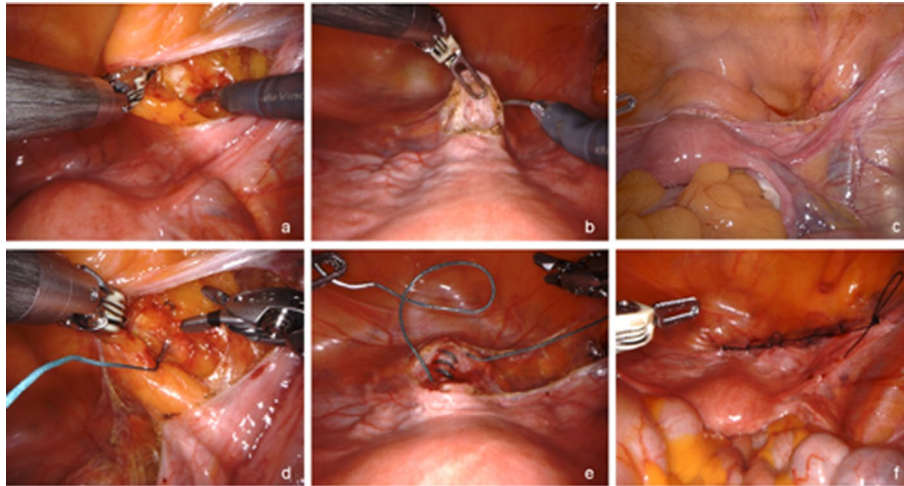


Image footnote

Exposure of the pectineal (“Cooper”) ligament (a), removing the bladder flap from the anterior cervix (b), completing peritoneal dissection between bladder flap and pectineal ligament (c), placing a non-absorbable Ethibond #2 suture through the pectineal ligament (d), attaching the Ethibond #2 suture to the cervix and connecting the two structures (e), closure of the peritoneum with a running absorbable Vicryl #2.0 suture (f).

Author contributions MS: data management, manuscript writing, DIB: data management, manuscript writing, CVMB: data management, manuscript writing.

Funding Open access funding provided by Paracelsus Medical University.

Data availability The pictures which are shown were taken during the surgeries in our hospital.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will

need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

1. U.S. Food and Drug Administration. FDA takes action to protect women's health, orders manufacturers of surgical mesh intended for transvaginal repair of pelvic organ prolapse to stop selling all devices. Silver Spring (MD):FDA; 2019. Available at: <https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm636114.htm>.
2. Wise J (2017) NICE to ban mesh for vaginal wall prolapse. *BMJ* 28:359. <https://doi.org/10.1136/bmj.j5523>
3. Meriwether KV, Antosh DD, Olivera CK, Kim-Fine S, Balk EM, Murphy M, Grimes CL, Sleemi A, Singh R, Dieter AA, Crisp CC, Rahn DD (2018) Uterine preservation vs hysterectomy in pelvic organ prolapse surgery: a systematic review with meta-analysis and clinical practice guidelines. *Am J Obstet Gynecol* 219(2):129–146.e2. <https://doi.org/10.1016/j.ajog.2018.01.018>
4. Bolovis DI, Brucker CVM (2022) Unilateral pectineal suspension-A new surgical approach for apical correction of pelvic organ prolapse. *Facts Views Vis Obgyn* 14(2):177–181. <https://doi.org/10.52054/FVVO.14.2.015>
5. Bolovis DI, Schreibmayer M, Hitzl W, Brucker CVM (2023) Retrospective analysis of apical prolapse correction by unilateral pectineal suspension: perioperative and short-term results. *Int Urogynecol J* 2023:14. <https://doi.org/10.1007/s00192-023-05479-4>
6. Haylen BT, Maher CF, Barber MD, Camargo S, Dandolu V, Digesu A, Goldman HB, Huser M, Milani AL, Moran PA, Schaer GN, Withagen MI (2016) An International urogynecological association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic organ prolapse (POP). *Int Urogynecol J* 27(2):165–194. <https://doi.org/10.1007/s00192-015-2932-1>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.