The Treatment of Post-hysterectomy Vaginal Vault Prolapse: A Systematic Review and Meta-analysis

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ABSTRACT

Although treatment of posthysterectomy vaginal vault prolapse (VVP) has been investigated in several randomized clinical trials, the best treatment remains controversial. There has been no prior systematic overview comparing VVP treatments.

The aim of this study was to compare the effectiveness of treatments for VVP using a systematic review and meta-analysis, combined with a network plot. Effectiveness was evaluated using objective (anatomical) results and/or subjective (quality of life and satisfaction) results. The systematic review and meta-analysis was performed through a search of PubMed (MEDLINE) and EMBASE databases to identify randomized clinical trials comparing different treatments for VVP. For additional articles, reference lists of identified articles were examined. To illustrate the geometry of the network of the treatments included, a network plot was constructed. Trials were included only if they reported on the objective and/or subjective outcome of VVP treatments, involved at least 30 participants, and had a follow-up of at least 6 months.

Of 264 full-text articles assessed for eligibility, 9 (involving 846 women) met the inclusion criteria. All surgical techniques resulted in good subjective results with no differences between the compared technique, with the exception of the comparison of vaginal mesh (VM) versus laparoscopic sacrocolpopexy (LSC), where use of LSC was associated with a higher satisfaction rate. The best anatomical results were found for sacrocolpopexy (LSC, robotic sacrocolpopexy [RSC], and abdominal sacrocolpopexy [ASC]) (62%–93%), followed by the VM. However, anatomical success rates for VM varied widely (43%–97%). The poorest anatomic results were reported for sacropinous fixation (SSF, 35%–81%); this correlates with the higher reoperation rate for pelvic organ prolapse after SSF (5%–9%). The highest percentage of complications were reported after RSC (54%), VM (6%–29%), and ASC (2%–19%). The reported mesh exposure rate after a sacrocolpopexy was very low (ranging from 0% to 5%). The highest exposure rates were found for VM (8%–21%).

With heterogeneity of the subjective and objective outcome results, rate of reoperations for recurrence of prolapse can be a good reflection of anatomical results and patient satisfaction. For VM, the rate of reoperations because of complications, prolapse recurrence, and incontinence was 13% to 22%. The best results at follow-up were with sacrocolpopexy, with an outlier of 11% for LSC in 1 trial. Results for RSC were too small to make any conclusion, but LSC appeared to be preferable to ASC.

All techniques appear to be effective, and reported differences between the techniques are negligible. Comparison of techniques is not possible because of heterogeneity. Therefore, a network meta-analysis cannot be performed. No standard treatment for VVP can be given based on this review. In addition to heterogeneity of results, assessment of objective and subjective outcomes is difficult because of use of different definitions and measurement tools.

EDITORIAL COMMENT

(The most striking thing about this systematic review and meta-analysis is not the dearth of relevant randomized trials or the lack of difference between compared procedures. Rather, despite...
considerable progress in clinical research in this arena, the continued heterogeneity of outcome measures really limited the authors from making rigorous comparisons of the trials.

The review includes 9 level 1B randomized trials published between 2004 and 2017, an impressive improvement in the quality of studies related to pelvic organ prolapse in recent years. All had at least 1-year planned follow-up, and 3 reported longer-term follow-up. Pooled outcomes showed that various forms of sacrocolpopexy generally resulted in the best anatomic repair, but the dominance of this procedure was not at all overwhelming, and the ranges of anatomic success for all 3 types of approaches were quite wide. Satisfaction with all 3 approaches was comparable, although reoperation rates for recurrent prolapse for SSF were slightly higher.

The findings regarding complications are worth some attention. Vaginal mesh procedures had the highest combined reoperation rate when recurrent prolapse and reoperation for complications were combined. This finding was driven by complication rate, primarily that of mesh exposure or erosion. In these trials, VM procedures were uniformly those of “first-generation” VM devices no longer in wide use, which limits current clinical relevance of this comparison. Still relevant, however, is that the sacrocolpopexy group had the highest rate of serious complications. This is important to consider when counseling a patient about elective surgical intervention.

The authors had specific recommendations for future trial design, which would aid in determination of a reference procedure (impossible for them here) and limit the heterogeneity of data, which limited their capacity to make more of the 9 randomized trials published thus far. Surgical success should be defined in a composite fashion using recurrent prolapse beyond the hymen as measured by the Pelvic Organ Prolapse Quantification System, presence of bothersome bulge symptoms, and rates of repeat intervention. Satisfaction should be measured by validated questionnaires and complications reported systematically, using standardized scales. For the time being, there is no reason not to continue offering women with VVP transvaginal procedures such as SSF, as well as transabdominal procedures such as sacrocolpopexy. Evidence for VM procedures using current devices is limited. We need data comparing all 3 of these reported to the level of quality as described by these authors to properly inform patients with VVP of their best surgical choice.—ACW)

Cadaveric Nerve and Artery Proximity to Sacrospinous Ligament Fixation Sutures Placed by a Suture-Capturing Device

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ABSTRACT

A common choice for apical suspension is use of sacrospinous ligament fixation procedures, in which the vaginal vault is anchored to the ligament. There is no consensus on the recommended number and placement of sutures during the fixation procedure; placement varies from the lateral third of the sacrospinous ligament close to the ischial spine and as far away medially as 4 cm.

The aims of this study were to simulate standard suture placement in female cadavers in relation to sacrospinous fixation (SSF), describe the surrounding retroperitoneal anatomy, and measure the distances to all nerves and arteries at risk in this procedure to optimize safe suture placement. To replicate suture placement during the operation, sacrospinous ligament fixation was performed on 8 fresh-tissue female cadavers. The Capio ligature capture device was used for fixation. In all