282

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LAPAROSCOPIC SACRAL COLPOPEXY: DOES POSTERIOR MESH EXTENSION TO THE PERINEAL BODY MAKE A DIFFERENCE?

Hypothesis / aims of study

Laparoscopic sacral colpopexy (LSC) may be performed entirely from an abdominal approach (A-LSC) whereby the posterior graft is attached proximal to the rectovaginal septum, or from a combined abdominal-vaginal approach whereby the posterior graft is extended down and attached to the perineal body (AV-LSC) [1]. The primary aim of the present study was to determine whether extension of the posterior mesh resulted in a difference in post-operative posterior vaginal compartment measurements.

Study design, materials and methods

This was a retrospective cohort study of patients that underwent LSC at a tertiary referral center between Jan 2005 and Dec 2008. Patients were divided into those that had A-LSC (without a separate posterior colporrhaphy) and those than had AV-LSC. Pre-operative, peri-operative, and post-operative variables were compared between the two surgical groups. Comparisons were stratified according to pre-operative posterior pelvic organ prolapse-quantification (POP-Q) stage. Specifically, patients with posterior POP-Q stage ≤1 were compared (A-LSCP n=23; AV-LSCP n=26) and patients with posterior POP-Q stage ≥2 were compared (A-LSCP n=17; AV-LSCP n=51). In the latter comparison, patients that underwent AV-LSCP were matched to patients that had A-LSCP according to age, body mass index, history of previous prolapse surgery, and pre-operative posterior POP-Q stage in a 3:1 fashion. Continuous and categorical variables were compared between groups using Student t-tests and Fisher's exact tests, respectively. POP-Q values were compared using analysis of covariance with baseline values included as covariates in the model. Assuming that a difference between groups in POP-Q point Bp of 1cm was clinically significant, and using the common standard devistion of 0.9cm with the collected sample sizes for each group, this study had a 95% power to detect such a difference using the statistical analyses with a significance level of .05.

Results

For patients with pre-operative posterior POP-Q stage ≤1, there were no significant differences between A-LSC and AV-LSC patients for pre-operative demographic and anatomical variables, or peri-operative variables (P>.05). Follow-up was 6 to 12 months (A-LSC: mean 11.5 months; AV-LSC: mean 10.8 months) and there were no significant differences between A-LSC and AV-LSC patients for post-operative POP-Q measurements or stage of prolapse, mesh erosion, or for subjective outcomes of post-operative surgical satisfaction, recurrent prolapse symptoms, or dyspareunia (P>.05). For patients with pre-operative posterior POP-Q stage ≥2, there were also no significant differences beween A-LSC and AV-LSC patients for all pre-operative variables (P>.05). For peri-operative outcomes, the A-LSC group had significantly less estimated blood loss when compared to the AV-LSC group (142mL versus 216mL; P=.006), but all other variables were similar between groups (operative time, intra-operative complications, post-operative hemoglobin, and length of stay; P>.05). Follow-up for patients with pre-operative posterior POP-Q stage ≥2 also ranged from 6 to 12 months (A-LSC: mean 11.1 months; AV-LSC: mean 11.6 months). Post-operatively, A-LSC and AV-LSC patients had no significant differences for any POP-Q measurements or stage of prolapse, mesh erosion, surgical satisfaction, or dyspareunia (P>.05). However, the A-LSC group did have significantly more patients with recurrent prolapse symptoms than the AV-LSC group (25% versus 2%, P=0.01).

Interpretation of results

Patients with and without significant pre-operative posterior vaginal prolapse demonstrated similar anatomical outcomes regardless of whether the LSC was done through an abdominal or an abdominal-vaginal approach. The only significant difference was found in patients that had pre-operative posterior POP-Q stage ≥2 where patients that had A-LSC with posterior mesh attachment proximal to the level of the rectovaginal septum had a significantly greater rate of recurrent prolapse symptoms than those that had AV-LSC with posterior mesh attachement all the way down to the perineal body.

Concluding message

This study has demonstrated that LSC performed with or without posterior mesh extension to the perineal body had no effect on post-operative posterior vaginal compartment measurements. However, in patients with a greater pre-operative posterior stage of prolapse (≥2), the AV-LSC with mesh extension to the perineal body resulted in better post-operative prolapse symptomatology.

References

1. McDermott CD, Hale DS. Abdominal, laparoscopic, and robotic surgery for pelvic organ prolapse. Obstet Gynecol Clin North Am. 2009; 36(3): 585-614.

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Is this a clinical trial?	**No**

What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Approval was granted by the Institutional Review Board of Methodist Hospital/Clarian Health Partners (#08-077).**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**No**