

THE ROLE OF THE POSTERIOR APEX (POINT D) IN POSTERIOR VAGINAL WALL SUPPORT

Hypothesis / aims of study

The association between apical and vaginal wall support is well established [1, 2]. While the relationship of the posterior vaginal wall and point C has been quantified [2], little attention has been paid to point D, the apex of the posterior vaginal wall. Evidence for data driven criteria to determine the appropriate surgical repair for posterior vaginal wall prolapse is needed. The objective of this study was to 1) examine the relationship between the posterior apex location (point D) and posterior vaginal wall support (point Bp) and 2) determine the relationship between abnormal point D location and posterior vaginal wall prolapse size.

Study design, materials and methods

A sample of women with a full range of support from normal to full prolapse was assembled by selecting both women with normal support and prolapse as a secondary analysis of two case-control studies. POP-Q points were used for analysis, Bp representing the posterior wall and point D as the posterior apex. After hysterectomy, D was measured as the posterior fornix, and C measured separately as the hysterectomy scar. Pearson's correlation coefficient was used to compare these numbers. Two criteria were used to determine when abnormal apical descent was present: 1) Point D beyond the population norm (mean + 2 standard deviations = -6 cm), and 2) Descent of point D past the upper 1/3 of the subject's total vaginal length (TVL). Subjects with abnormal descent were grouped for analysis by location of point Bp. P values less than 0.05 were considered significant.

Results

348 subjects were included; 141 with normal support and 207 with pelvic organ prolapse. The correlation of Bp to C was $r = 0.34$ ($p < 0.001$), and Bp to D was $r = 0.49$ ($p < 0.001$). Figure 1 compares posterior vaginal wall support (Bp) between women with and without posterior apical prolapse by the two definitions. On bivariate analysis, 67% of women with Bp point greater than +3 had apical descent as defined by point D below -6 cm. When apical prolapse was defined as apical descent more than one-third into the vagina, 83% of women with Bp > +3 had apical prolapse. Extended Mantel-Haenszel chi square analysis for both definitions of apical descent showed a dose-response type effect when examining apical descent related to point Bp group.

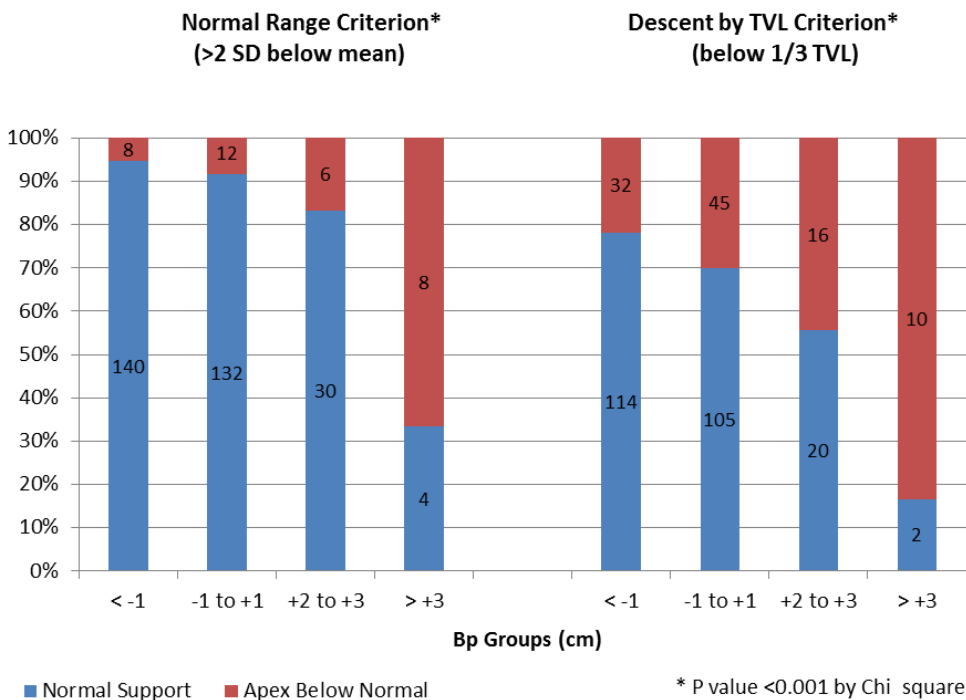
Interpretation of results

Posterior vaginal wall descent is more strongly correlated with point D than point C. Women with a posterior vaginal wall beyond +3 cm are more likely to have apical descent by both definitions, suggesting a threshold effect.

Concluding message

The need for apical suspension at the time of vaginal prolapse repair continues to be debated. Our data suggest that attention should be paid to the apex when the posterior vaginal wall is 3 cm or more beyond the hymen, and this is an important direction for future clinical studies. Such studies would provide evidence based criteria for appropriate surgical repair for posterior vaginal wall prolapse.

Figure 1: Posterior Vaginal Wall Support (Bp) in Women With and Without Point D Descent



References

1. Summers A, Winkel LA, Hussain HK, DeLancey JO. The relationship between anterior and apical compartment support. Am J Obstet Gynecol. May 2006;194(5):1438-1443
2. Rooney K, Kenton K, Mueller ER, FitzGerald MP, Brubaker L. Advanced anterior vaginal wall prolapse is highly correlated with apical prolapse. Am J Obstet Gynecol. Dec 2006;195(6):1837-1840

Disclosures

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