

POSTERIOR VAGINAL COMPARTMENT REPAIRS: WHERE ARE THE MAIN ANATOMICAL DEFECTS?

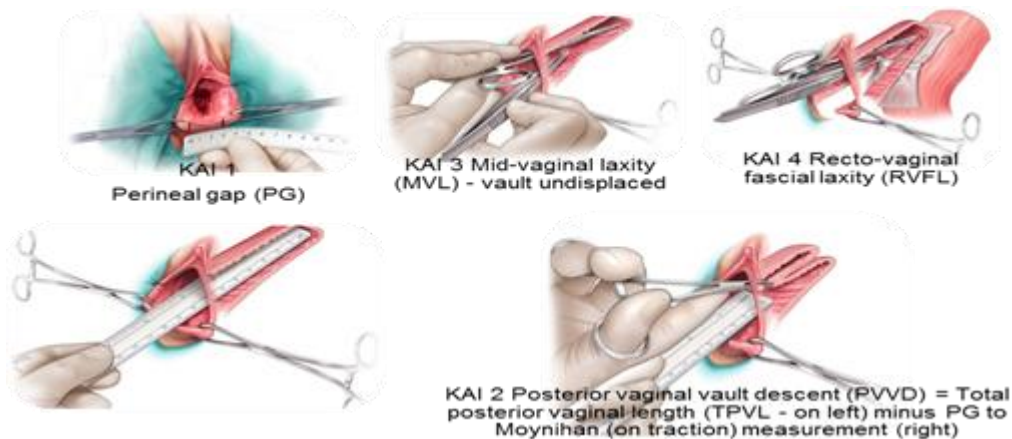
Hypothesis / aims of study

Uncertainty exists about the optimum surgical approach to posterior vaginal compartment repairs (PR) in part as the main anatomical defects have not been clearly identified. A recent preliminary report¹ of 50 cases suggested that the defects were more at the vaginal vault (Level I² - mean 53mm) and at the vaginal introitus (Level III² - mean 25mm) than, as traditionally believed, at the mid-vagina (Level II² - mean 13mm and 8mm).

This study aims to review these preliminary findings¹ with a much larger series of 300 cases using two sets of markers of posterior vaginal compartment prolapse, POP-Q³ and, as used in the original series, PR-Q¹. The latter uses four "key anatomical indicators - KAI 1-4" measuring Level III (KAI 1), Level I (KAI 2) and Level II (KAI 3,4) defects respectively.

Study design, materials and methods

In a prospectively conducted study of 300 consecutive PRs, mostly following prior or concomitant hysterectomy, the following were measured pre- and immediately postoperatively: (i) from POP-Q³: points C, Ap and Bp and genital hiatus (GH); from PR-Q¹: perineal gap (PG), posterior vaginal vault descent (PVVD), mid vaginal laxity (MVL) vault undisplaced, rectovaginal fascial laxity (RVFL) - see Figures. The range of other demographic and surgical factors noted included: age; parity; weight; height; BMI; menopause and prior hysterectomy. Surgical initiatives such as (i) excision of the perineal defect (PG); (ii) vault suspension (sacrospinous colpopexy - SSC); (iii) vaginal skin excised; (iv) rectovaginal fascial suturing were recorded.



Results

Table 1 shows the parameter distribution summary. The findings for PR-Q¹ prolapse markers were consistent but stronger than in the preliminary report¹ though mainly for the level I (PVVD - mean 60mm [53mm¹]) and level III (PG - 29mm [25mm¹]) defects. Level II defects (MVL undisplaced - mean 13mm [13mm¹]; RVFL - mean 11mm [8mm¹]) were still relatively small.

Interpretation of the POP-Q¹ Level I and II markers (Point C - mean -9mm [-25mm¹]; Point Ap - mean 10mm [1mm¹]; Point Bp - 10mm [2mm¹]) was more difficult. There was much less consistency of the POP-Q findings with the results for the earlier case series. The exception was GH - mean 36.7mm [36.0mm¹]. A Level III marker the equivalent of PG was also not available.

SSC for Level 1 support was required in 84% cases versus 62% previously¹, probably due to the higher PVVD (and Point C) in the current series. With MVL undisplaced identical in both series (13mm), vaginal skin excision was similar occurring in 96% (92%¹) cases with 67% (72%¹) requiring only up to 5mm bilateral excision. With the increase in RVFL. 8mm to 11mm, fascial suturing rate was increased 76% (vs 56%¹).

Mean preoperative MVL displaced (by traction instead of undisplaced) was 27.7mm. The mean preoperative MVL undisplaced was 12.5mm. From this, it can be interpreted that 15.2mm (55%) of preoperative MVL displaced was due to vaginal vault laxity.

Interpretation of results

This study supports and enhances the evidence from the preliminary report¹ that the defects found at surgery for posterior vaginal compartment prolapse were more at the vaginal vault (Level I²) and at the vaginal introitus (Level III²) than at the mid-vagina (Level II²).

Concluding message

Surgical planning should consider that the main anatomical defects are not generally, as traditionally believed, at Level II, but rather at the vaginal vault (Level I) and introitus (Level III). More vaginal vault support and perineal repair may be required with less dissection and repair at the mid-vagina (Level II) being needed.

Variable	Mean	SD	Min	p25	Median	p75	Max
Age (years)	63.6	11.8	31	56	65	72	91
Weight (kg)	71.1	14.6	44	60	68.75	79	141
Height (cm)	162.9	7.1	142	159	163	167	187
BMI (kg/m ²)	26.7	5.0	18.6	23.3	25.8	28.5	46.3
Parity	2.6	1.2	0	2	2	3	8
PR-Q POSTERIOR PROLAPSE MARKERS							
Perineal gap - PG (Pre-op) (mm)	28.6	9.7	2.5	22	28	35	60
PVVD (Pre-op) (mm)	60.1	19.9	3	50	60	70	150
MVL, undisplaced (Pre-op) (mm)	12.5	6.5	0	10	10	15	35
Recto-vaginal fascial laxity - RVFL (mm)	10.5	6.6	0	5	10	15	40
POP-Q POSTERIOR PROLAPSE MARKERS							
Pre-op point C (mm)	-9.1	23.4	-80	-20	-10	0	80
Pre-op point Ap (mm)	10.0	14.0	-30	0	10	20	50
Pre-op point Bp (mm)	10.3	14.6	-30	0	10	20	60
Genital Hiatus (GH) pre-op (mm)	36.7	9.3	15	30	35	42	65

References

1. Int Urogynecol J, 25(12):1665-1772; Neurourol Urodyn, 33(6):900-901
2. Amer J Obstet Gynecol 166:1717-1728.
3. Amer J Obstet Gynecol 175(1): 10-14

Disclosures

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Helsinki: Yes **Informed Consent:** Yes