68

Hsiao S[1], Chang T[2], Chen C[2], Shun C[3], Wu W[1], Lin H[2]

1. *Department of Obstetrics & Gynecology, Far Eastern Memorial Hospital, Banqiao, New Taipei, Taiwan,* ***2.*** *Department Obstetrics & Gynecology, National Taiwan University Hospital, Taipei, Taiwan,* ***3.*** *Department of Pathology, National Taiwan University Hospital, Taipei, Taiwan*

RISK FACTORS FOR COEXISTENCE OF CERVICAL ELONGATION IN UTERINE PROLAPSE

Hypothesis / aims of study

The presence of coexistence of cervical elongation in women with uterine prolapse may decrease the patients' satisfaction of uterine-preservation surgery for uterine prolapse, and additional surgery, such as Manchester surgery, may be needed to sole the problem [1]. Thus the aim of this study is to investigate the risk factors for coexistence of cervical elongation in uterine prolapse.

Study design, materials and methods

Between January 1994 and October 2014, all women with uterine prolapse who underwent total vaginal hysterectomy in a medical center were enrolled in this study. Medical records were reviewed. Cervical elongation is defined as the presence of cervical length>3.38 cm and/or cervix to corpus ratio >0.79 [2].

Results

A total of 295 women were enrolled in this study (Table 1). Univariate logistic analysis identified parity and the POP-Q stage of uterine prolapse as two significant risk factors. However, multivariate analysis revealed the stage of uterine prolapse as the only independent risk factor (Table 2). Receiver operating characteristic curve (ROC) analysis revealed the optimal cut-off value of the stage of uterine prolapse III with a sensitivity of 68.9% and a specificity of 53.6% and the area under the ROC curve being 0.63 (95% confidence interval = 0.56 to 0.69).

Table 1. Baseline data of women with uterine prolapse who underwent total vaginal hysterectomy

Variables	N=295
Age (years)	48.1±2.1
Parity	3.4±1.8
Body mass index (kg/m2)	23.9±3.2
Duration of symptoms (months)	50.4±86.8
Diabetes mellitus	30 (10%)
Hypertension	65 (22%)
Chronic constipation	11 (4%)
Stress urinary incontinence	46 (16%)
Stage of uterine prolapse	2.6±0.7
Stage of cystocele	1.8±0.7
Stage of rectocele	1.0±0.2
Cervical length (cm)	3.3±1.16
Corpus length (cm)	6.01±2.58
Cervix to corpus ratio	0.66±0.68
Cervical length >3.38 cm	124 (42%)
Cervix to corpus ratio >0.79	70 (24%)
Cervical length >3.38 cm and/or cervix to corpus ratio >0.79	136 (46%)

Table 2. Univariate and multivariate logistic analyses to predict cervical elongation in women (n = 295) with uterine prolapse who underwent total vaginal hysterectomy

	Univariate analysis		Multivariate analysis†	
Variables	Odds ratio	P	Odds ratio	P
Age (years)	0.96 (0.86~1.07)	0.47	-	-
Parity	0.86 (0.74~0.98)	0.03	-	-
Body mass index (kg/m2)	0.96 (0.89~1.03)	0.28	-	-
Duration of symptoms (months)	1.00 (1.00~1.00)	0.59	-	-
Diabetes mellitus	0.55 (0.25~1.22)	0.14	-	-
Hypertension	0.62 (0.35~1.09)	0.09	-	-
Chronic constipation	0.97 (0.29~3.26)	0.97	-	-
Stress urinary incontinence	0.79 (0.42~1.50)	0.48	-	-
Stage of uterine prolapse	1.95 (1.35~2.82)	<0.001	1.95 (1.35~2.82)	<0.001
Stage of cystocele	2.41 (0.98~5.92)	0.06	-	-
Stage of rectocele	2.20 (0.71~6.81)	0.17	-	-

† R2 = 0.04

Interpretation of results

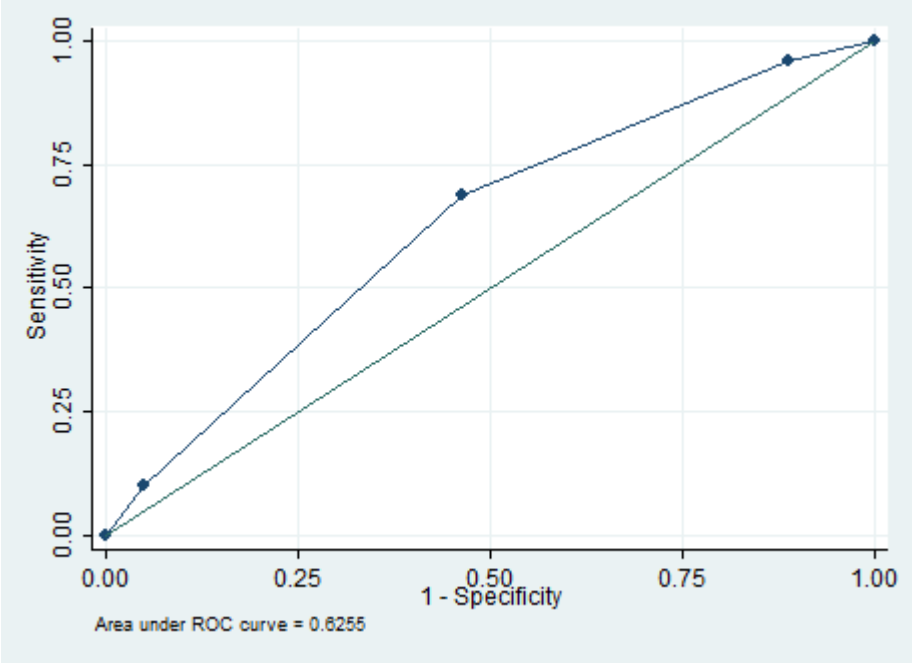
We successful identified the stage of uterine prolapse as an independent risk factor of coexistent cervical elongation. However, owing to poor sensitivity and specificity, the stage of uterine prolapse is a poor indicator for coexistent cervical elongation.

Nonetheless, women who will undergo uterine preservation surgery for uterine prolapse should be informed the possibility of concomitant cervical shortening surgery, especially for women with stage ≥III uterine prolapse.

Concluding message

The POP-Q stage of uterine prolapse is an independent risk factor of coexistent cervical elongation in women with uterine prolapse. Concomitant cervical shortening surgery may be needed for women who will undergo uterine-preserving surgery, especially for women with stage ≥III uterine prolapse.

Figure 1. ROC curve to predict cervical elongation by the POP-Q stage of uterine prolapse



References

1. Liebergall-Wischnitzer M, Ben-Meir A, Sarid O, Cwikel J, Lavy Y. Women's well-being after Manchester procedure for pelvic reconstruction with uterine preservation: a follow-up study. Arch Gynecol Obstet 2012;285:1587-92.
2. Berger MB, Ramanah R, Guire KE, DeLancey JO. Is cervical elongation associated with pelvic organ prolapse? Int Urogynecol J 2012;23:1095-103.

Disclosures

Funding: none **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** National Taiwan University Hospital Research Ethics Committee **Helsinki:** Yes **Informed Consent:** No