

**FIBULIN-3 EXPRESSION IN VAGINAL WALLS OF WOMEN WITH PELVIC ORGAN PROLAPSE**Hypothesis / aims of study

Pelvic support was impaired in female *Fbln3*<sup>-/-</sup> mice.<sup>1</sup> However, fibulin-3 expression in the uterosacral ligaments of women with and without prolapse was similar.<sup>2</sup> We aimed to compare fibulin-3 expression in vaginal walls of women with and without pelvic organ prolapse

Study design, materials and methods

Vaginal wall were obtained from women with (n=24) and without (n=12) pelvic organ prolapse. RT-PCR was performed to measure mRNA expression and protein expression was assessed by immunohistochemistry.

Results

Age, parity, menopausal status, serum estradiol level, and all components of pelvic organ prolapse quantification were different between women with and without prolapse. Fibulin-3 mRNA expressions were not different between prolapse and non-prolapse groups. The vaginal connective tissues in prolapse group were more intensely stained for fibulin-3 ( $P < 0.05$ ).

Table 1. The characteristics of study patients (n=36)

Variables	Prolapse (n = 24)	Non-prolapse (n = 12)	P
Age (years)	67.7 ± 9.8	47.9 ± 5.3	<b>0.000</b>
Parity	3.7 ± 1.7	1.3 ± 0.9	<b>0.000</b>
Body mass index (kg/m <sup>2</sup> )	24.4 ± 3.4	23.2 ± 2.2	0.345
Menopause [n (%)]	21 (89.3)	1 (11.1)	<b>0.000</b>
Serum estradiol (pg/ml)	10.8 ± 12.2	62.2 ± 44.3	<b>0.008</b>
Aa	1.0 ± 1.3	-1.6 ± 1.1	<b>0.000</b>
Ba	2.4 ± 3.1	-1.6 ± 1.1	<b>0.000</b>
C	0.0 ± 4.9	-4.8 ± 2.0	<b>0.001</b>
Ap	-1.2 ± 1.6	-2.4 ± 0.4	<b>0.006</b>
Bp	-0.1 ± 3.4	-2.4 ± 0.4	<b>0.007</b>
D	-1.2 ± 5.7	-6.7 ± 2.0	<b>0.001</b>
gh	5.0 ± 1.3	3.8 ± 1.1	<b>0.029</b>
pb	2.5 ± 0.7	4.0 ± 0.8	<b>0.000</b>
tvI	8.0 ± 1.2	9.1 ± 0.6	<b>0.02</b>

Data were presented as mean SD ± standard deviation.

Table 2. Fibulin-3 expression in vaginal wall (n=36)

Variables	Prolapse (n = 24)	Non-prolapse (n = 12)	P
Fibulin-3 mRNA expression (relative units)	0.7 ± 0.0	0.7 ± 0.1	0.975
Intensity score of fibulin-3 expression, median (range)	1 (0-2)	0 (0-0)	<b>0.04</b>

Data were presented as mean SD ± standard deviation.

Fig. 1 RT-PCR for fibulin-3 in vaginal walls of women with or without prolapse

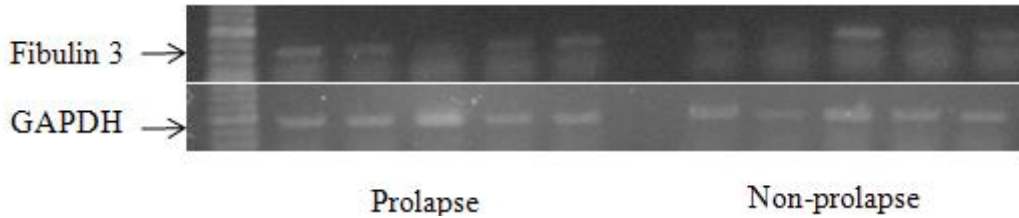
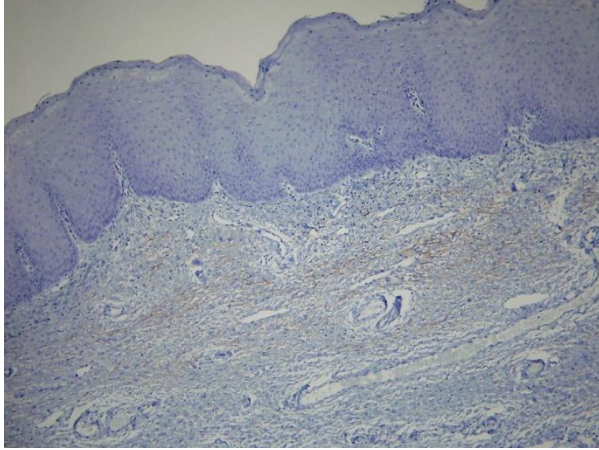


Fig. 2 Immunohistochemistry for fibulin-3 in vaginal walls of women with prolapse.



Interpretation of results

Fibulin-3 protein expression was increased in vaginal wall in pelvic organ prolapse women.

Concluding message

It is likely that abnormal fibulin-3 expression has a role in the pathogenesis of pelvic organ prolapse.

References

1. Rahn DD et al (2009) Failure of pelvic organ support in mice deficient in fibulin-3. Am J Pathol 174:206–215
2. Takacs P et al (2009) Differential expression of fibulins in the uterosacral ligaments of women with uterine prolapse. Arch Gynecol Obstet. 2009 Oct 28. Epub ahead of print

<b><i>Specify source of funding or grant</i></b>	<b>This study was supported by a grant of the Korea Healthcare technology R&amp;D Project, Ministry for Health, Welfare &amp; Family Affairs, Republic of Korea (A091332).</b>
<b><i>Is this a clinical trial?</i></b>	<b>No</b>
<b><i>What were the subjects in the study?</i></b>	<b>HUMAN</b>
<b><i>Was this study approved by an ethics committee?</i></b>	<b>Yes</b>
<b><i>Specify Name of Ethics Committee</i></b>	<b>the Institutional Review Board of Korea University Anam Hospital</b>
<b><i>Was the Declaration of Helsinki followed?</i></b>	<b>Yes</b>
<b><i>Was informed consent obtained from the patients?</i></b>	<b>Yes</b>