

A STUDY ON RELATIONSHIP BETWEEN PELVIC ORGAN PROLAPSE AND SACRAL SLOPE

Hypothesis / aims of study

Although obesity is considered to be one of the risk factors for pelvic organ prolapse (POP), relationship between BMI and the condition has not yet been established¹. Cases of POP in underweight women are also not clinically uncommon. Association between pelvic inclination and pelvic organ prolapse was retrospectively examined with consideration of a possibility that the spine becomes out of alignment and the vector of abdominal pressure changes, increasing chances of POP to occur.

Study design, materials and methods

Subjects of the study were eleven patients who had preoperative chain cystourethrography and underwent transvaginal mesh surgery for treatment of stage2 POP or above in our hospital between May 2016 and March 2017. Sacral slope (SS) defined as the angle between the sacral plate and the horizontal plane was measured using standing lateral images taken in chain cystourethrography, and the correlation with age, the number of vaginal delivery, BMI, presence or absence of spinal disease, POP-Q scores was examined. Statistical analysis was conducted using Pearson's correlation coefficient.

Results

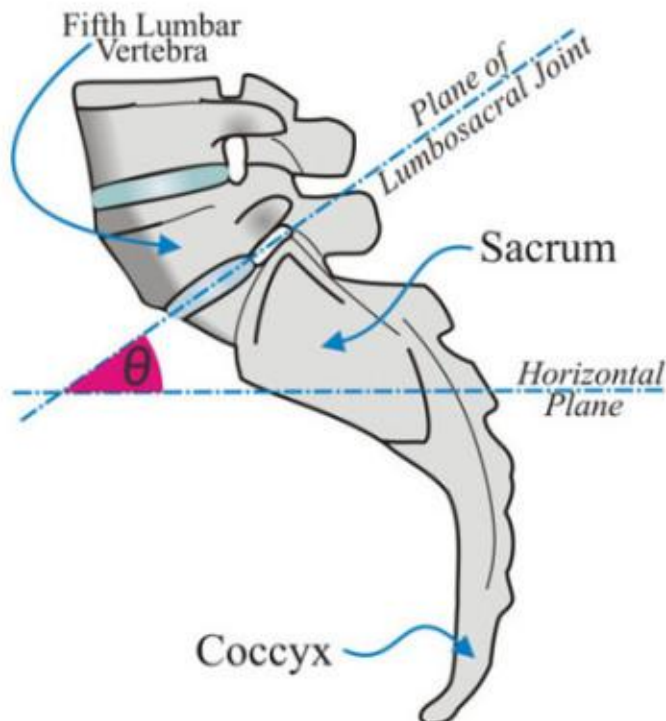
The average age of eleven patients was 71.0 ± 4.6 years, mean BMI was 25.2 ± 3.0 , and mean POP-Q scores were Aa 1.45 ± 1.12 , Ba 1.54 ± 1.12 , C -2.45 ± 3.72 , pb 1.90 ± 0.30 , tv 7 ± 1.10 , Ap -1.91 ± 2.43 , Bp -1.9 ± 2.43 , D -4.09 ± 4.78 , respectively. With regards to physiological curvature, a normal value of SS is considered to be between 25° and 45° . In this study, the average of measured SS was $26.9 \pm 9.99^\circ$. Correlation between SS and each parameter was not found. Also, when considering cases presented SS between 25° to 45° to be normal, less than 25° to be posterior pelvic tilt, and over 45° to be anterior pelvic tilt, there were seven cases in the normal group, three in the posterior pelvic tilt group, and one in the anterior pelvic tilt group. No difference was found among three groups in terms of BMI and POP-Q scores.

Interpretation of results

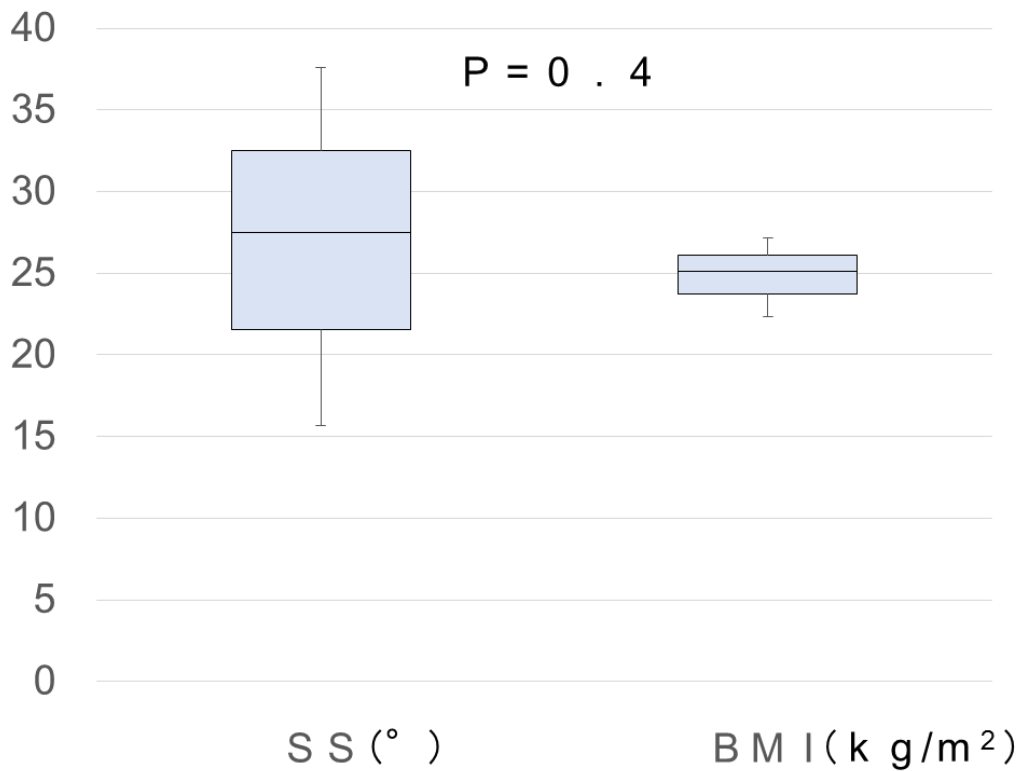
Although obesity is one of the risk factors of POP, there are clinical cases of severe POP in underweight women, and thus, it was considered that posterior pelvic tilt could be a risk factor of POP. Cine MRI and transperineal ultrasound are used in image diagnosis of POP, although all examinations are carried out in the recumbent position and not in the standing position. Therefore, the study attempted to evaluate pelvic inclination in the standing position with sacral slope measured using standing lateral images taken in chain cystourethrography. Since the sample size is small, it would be necessary to examine a larger number of cases as well as carry out comparison with non-POP cases in the future.

Concluding message

The study investigated pelvic inclination of patients with POP.



The relationship of SS and BMI



References

1. Jelovsek, J.E., Maher, C., Barber, M.D. Pelvic organ prolapse. Lancet. 2007;369:1027–1038.

Disclosures

Funding: none **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** this study is retrospective. **Helsinki:** Yes **Informed Consent:** No