Relationship between aging and pelvic relaxation: evaluation of bladder neck position using magnetic resonance images in a sitting posture

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Context: As with the delivery, aging is considered a factor of pelvic relaxation.
Objective: The purpose of this study was to verify that aging causes pelvic relaxation.
Methods: This was designed as a case-control study. Bladder neck position (the distance from the pubococcygeal line to the bladder neck) at rest in 227 parous women (age, 26-76 years; body mass index [BMI], 15.9-36.0 kg/m²; parity, 1-4) was measured using magnetic resonance (MR) images in a sitting posture acquired by an open-configuration MR system, GE Signa SP/2. The partial correlation coefficient between the bladder neck position and age was calculated, with BMI and parity as the control variables.
Results: The partial correlation coefficient between the bladder neck position and age, with BMI and parity as the control variables, was -0.249 (P < 0.001). The median and 25-75th percentile of the bladder neck positions according to age group are shown in the following: 20-29 years of age was 4.3 mm (-8.5, 10.9, n = 9), 30-39 years of age was 6.4 mm (0.0, 11.2, n = 58), 40-49 years of age was 4.4 mm (-2.0, 10.8, n = 81), 50-59 years of age was 0.0 mm (-6.2, 8.8, n = 57), 60-69 years of age was 1.7 mm (-6.0, 4.1, n = 18), and 70-79 years of age was -7.9 mm (-13.8, 1.9, n = 4).
Conclusions: In this study, bladder neck position and age were negatively correlated. We demonstrated that pelvic relaxation among the women in our study was caused by aging.