

INCONTINENCE AND PELVIC ORGAN PROLAPSE IN PAROUS/NULLIPAROUS PAIRS OF IDENTICAL TWINS

Hypothesis / aims of study

To evaluate the role of vaginal delivery in the development of urinary incontinence and pelvic organ prolapse in identical twins.

Null hypotheses:

1. There is no difference in continence status of nulliparous postmenopausal women and their parous identical twin sister.
2. There is no difference in pelvic organ prolapse of nulliparous postmenopausal women and their parous identical twin sister.

Study design, materials and methods

Four sets of identical twins were identified from 101 pairs of nulliparous, postmenopausal women and their biological sisters who have had at least one vaginal delivery. All of these sister pairs completed a comprehensive questionnaire, and underwent clinical evaluation on urinary incontinence and genital prolapse as part of a study. Women with signs or symptoms of urinary incontinence additionally underwent multi-channel urodynamic evaluation. Data on demographic variables, number of vaginal deliveries, BMI, continence status, type of incontinence, prolapse stage of anterior-, posterior, and apical compartment were recorded. Findings of identical sisters were compared to each other.

Results

The ages of the pairs of identical twins ranged from 52 to 55 years. The parous sister in all of the pairs had two vaginal deliveries. The differences in BMI between twin pairs ranged from 0 to 1.6. In one pair both sisters had a hysterectomy. In two pairs, both sisters stated to have no urinary incontinence, and in one pair both sisters stated to be incontinent with activities. In the remaining pair, the nulliparous sister stated to be incontinent while the parous sister stated to be continent. Clinically, there was no evidence of incontinence in both of the twin pairs stating to be continent. Both twins of the pair reporting symptoms of stress urinary incontinence were clinically diagnosed with stress incontinence at VLPP of 120 and 130 cm H₂O in the nulliparous and the parous sister respectively. The sisters in the symptomatically discordant pair were both diagnosed with stress incontinence with VLLP of 130 and 120 cm in the nulliparous and the parous sister respectively. Numbers of daily voids and maximal bladder capacity were similar between sister pairs. The largest difference in maximal bladder capacity was 60 cc. When considering the degree of prolapse as truly different if the prolapse observed in one sister was two or more stages apart from that of the other sister using the Baden-Walker system, three twin pairs were concordant in all three compartments. In the remaining pair of twins, the parous twin had a grade 2 rectocele, while the nulliparous twin had no rectocele. Using the POP-Q system, two twin pairs had identical measurements throughout. One pair had a difference in Ab of 2, and the one pair with the 2 stage difference in the posterior compartment a difference in Pb of 3. The total vaginal length was the same within all twin pairs.

Interpretation of results

All four pairs of identical twins were diagnosed with identical continence status. No difference in any parameter was observed between nulliparous women and their parous identical twins. There was no difference in the apical relaxation in all four twin pairs. Three pairs were identical with regard to the anterior and posterior compartment as well. The parous twin had the greater relaxation by examination in the diverging pair. This was not of clinical significance.

Concluding message

Vaginal delivery was not a risk factor for urinary incontinence within identical twins with different parity status.

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