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IS IT POSSIBLE TO PREDICT THE RISK OF POSTNATAL URINARY OR FECAL INCONTINENCE PRIOR TO DELIVERY?

Hypothesis / aims of study

The postpartum period is known to be a at risk for urinary (around 20%) or fecal incontinence (around 5%). More and more pregnant women ask for a personalized information about their own postpartum risk and what can be done to prevent it (including caesarean section). Two predictive models have been developed by Jelovsek to predict urinary and fecal postpartum incontinence in nulliparous women [1], but they are not validated in another population.

Our aim was to compare the prediction of incontinence computed by these models [1] and the prevalence observed in a sample of pregnant nulliparous women included in a longitudinal study [2]. We also performed an analysis to identify the antenatal factors of postnatal urinary incontinence in our longitudinal data.

Study design, materials and methods

The two prenatal models developed by Jelovsek use information about maternal age, race, urinary incontinence before pregnancy, urinary incontinence during pregnancy, prepregnancy BMI, predelivery BMI, and planned mode of delivery to calculate postnatal urinary and fecal incontinence risks [1].

Our sample was from a randomized trial on prenatal pelvic floor muscle training [2]; 282 nulliparous women were included before 29 weeks of gestation and followed at 12 months postpartum (192 women). All data needed to compute models, except race, were available. Additionally, we had collected at inclusion information about pelvic organ prolapse (Aa, gh, and pb measures according to POP-Q), pelvic floor strength, and ultrasound bladder neck descent during Valsalva [3].

We calculated the postnatal incontinence risks for each woman included assuming a racial value carrying the highest risk (Asian). Calculated risks were divided into 4 increasing categories (5-29% / 30-59% / 60-89% / 90-99%) and compared to the prevalence observed at 12 month postpartum. ICIQ-UI SF score was used to define urinary incontinence severity (no incontinence if score = 0; slight if 1-5; moderate if 6-12; and severe if 13-21) and Australian Pelvic Floor Questionnaire to define fecal incontinence. We performed a multivariate logistic regression to identify antenatal factors associated with urinary incontinence at 12 months postpartum.

Results

At 12-month postpartum, among the 15 women with an anticipate risk of fecal incontinence of 60% or higher, none reported fecal incontinence; Among the 146 women with an anticipate risk of faecal incontinence <60%, 5 (3.4%) reported some degree of fecal incontinence (Table).

		Anticipate (calculated) risk			
Reported prevalence at 12-month postpartum, n (%)		5-29%	30-59%	60-89%	90-99%
No Fecal incontinence	156 (97%)	10	131	12	3
Any Fecal incontinence	5 (3%)	1	4	.	.
No Urinary incontinence	102 (64%)	40	55	6	1
Slight Urinary incontinence	35 (22%)	3	23	9	.
Moderate Urinary incontinence	21 (13%)	3	12	3	3
Severe urinary incontinence	2 (1%)	.	.	.	2

Table: Comparison between calculated risk and incontinence reported at 12-month postpartum

Multivariate logistic analysis identified only 3 factors significantly related to 12-month urinary incontinence: predelivery BMI, point Aa position at inclusion, and urinary incontinence during pregnancy. The logistic model had c-index (area under the receiver operating characteristic curve) of 0.79.

Interpretation of results

Misclassification observed between prevalence reported and calculated may be explained by the role of delivery in incontinence occurrence. However, antenatal models and models including labor and delivery characteristics developed by Jelovsek to predict postnatal incontinence, had a similar accuracy with a c-index of 0.69 versus 0.68 for urinary incontinence and 0.67 versus 0.68 for fecal incontinence [1].

It seems that considering some antenatal pelvic floor measure, as point Aa, may increase prediction accuracy [3].

Concluding message

Using a prognostic model to predict postnatal incontinence leads to a substantial risk of misclassification, clinical implementation cannot be recommended. New efforts should be done to find new biomarkers to improve model's accuracy.

References

1. Jelovsek JE, Piccorelli A, Barber MD, Tunitsky-Bitton E, Kattan MW. Prediction models for postpartum urinary and fecal incontinence in primiparous women. Female Pelvic Med Reconstr Surg 2013;19:110-8.

2. Fritel X, de Tayrac R, Bader G, Savary D, Gueye A, Deffieux X, Fernandez H, Richet C, Guilhot J, Fauconnier A. Preventing urinary incontinence with supervised prenatal pelvic floor exercises: A randomized controlled trial. Obstet Gynecol 2015;126:370-7.
3. Pizzoferrato AC, Fauconnier A, Bader G, de Tayrac R, Fort J, Fritel X. Is prenatal urethral descent a risk factor for urinary incontinence during pregnancy and the postpartum period? Int Urogynecol J 2016;27:1003-11

Disclosures
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