

SECOND DEGREE PERINEAL TEARS IN PRIMIPAROUS WOMEN WITH SPONTANEOUS VAGINAL DELIVERY. RISK FACTORS

Hypothesis / aims of study

The objective of this study is to estimate the incidence of second degree tears, defined according to the classification by the Royal College of Obstetricians in a group of primiparous women with spontaneous vaginal delivery, and to identify the factors that could be associated with the presence of this type of perineal trauma.

Study design, materials and methods

An institutional review board-approved study in healthy, nulliparous, continent pregnant women, attending the public health care system of Catalonia (northeast Spain) was designed. Women were selected at the beginning of their gestations and followed during pregnancy and postpartum with the aim of describing the natural history of urinary and anal incontinence, and identifying the associated risk factors. A total of 1,128 pregnant women were included and delivery data were obtained from 938 of those recruited initially. The current study is based on data obtained from the 489 women with spontaneous deliveries.

Perineal trauma was defined as any damage to the genitalia (skin, muscle, fascia) during childbirth, either spontaneously or due to an episiotomy. Classification of perineal tears was first, second, third or fourth degree, according to the classification of Royal College of Obstetricians. A patient was considered to have a second degree perineal tear when the perineal trauma involved the perineal skin, superficial and /or deeper perineal muscles. Demographic and obstetrical variables included: maternal age, weeks of gestation, baseline body mass index (BMI), weight gain in pregnancy, induction, anaesthesia, cephalic position, episiotomy, type of episiotomy, perineal tears and degree, birth weight, and head circumference.

Continuous quantitative variables were described as mean values and ranges, and categorical ones as frequencies and percentages. Normality of data was checked by using the Kolmogorov-Smirnov test. For the bivariate analysis, the Student's t-test, ANOVA and the chi-squared test, or the corresponding non-parametric tests, were used as appropriate. Rates, relative risks and odds ratios (multivariate analysis) were estimated along with their 95% confidence intervals.

Only women with a singleton foetus were included in the analysis (8 twin pregnancies were excluded). Statistical significance level was established at p-values ≤ 0.05 .

Results

About 93% (95%CI:91%-95%) of women with vaginal deliveries showed some degree of perineal trauma. Respect spontaneous deliveries, the estimated episiotomy rate was 63.4% (95%CI:59.0%-67.8%) and the perineal tear rate was 35.3% (95%CI:30.7%-39.9%).

In spontaneous vaginal deliveries with episiotomy, a high proportion of women (92%; 95%CI:88.5%-95.5%) did not have a recorded tear compared to 76.4% (95%CI:69.8%-83.0%) of those without an episiotomy. On the other hand, the rate of tear without episiotomy was 86.3% (95%CI:80.6%-92.1%). The rate for an intact perineum after a spontaneous delivery was estimated to be 9.4% (95%CI:7.0%-12.5%).

When the association between second-degree tears and some demographic and obstetrical variables were assessed, only episiotomy reached statistical significance ($p < 0.0001$), revealing the protective effect of episiotomy to prevent a perineal trauma in spontaneous deliveries. In bivariate (RR=0.20; 95%CI:0.12-0.33; $p < 0.0001$) and multivariate analyses (OR=0.035; 95%CI:0.012-0.097; $p < 0.0001$), episiotomy showed a protective effect.

That is, the absence of episiotomy significantly increased the risk of second-degree tears (OR=28.57; 95%CI:10.31-83.33; $p < 0.0001$); additionally, the risk of second-degree perineal tear attributable to the absence of episiotomy in spontaneous deliveries was 80.0%.

Interpretation of results

Approximately two-thirds of the primiparous women with spontaneous vaginal deliveries in the cohort experienced some degree of trauma that affected the perineal muscles, whether was caused by episiotomy or by a spontaneous second degree tear. Thus, only one-third of them, had a first degree tear (involving only vaginal mucosa and perineal skin) or no perineal trauma, namely had no perineal muscles trauma.

Our study has found evidence of the clear protective or preventive effect of episiotomy with respect to second degree tears for primiparous women. Potentially as much as 80% of the second degree tears in spontaneous deliveries could have been prevented or avoided if an episiotomy had been performed. Women who did not undergo an episiotomy were 28.5 times more at risk of presenting second degree tears than those who did undergo an episiotomy.

The issue to be considered is whether it is beneficial to reduce the rate of episiotomies in primiparous women at the expense of an increase in spontaneous perineal trauma. Based on current evidence, it is not possible to establish definite protocols on when an episiotomy is indicated in a spontaneous vaginal delivery. Thus, the rate of perineal trauma should be minimized as

much as possible with restrictive use of episiotomy, but also assuming and informing primiparous women of the high risk muscular structures being affected following their first vaginal delivery (as a consequence of an episiotomy or a spontaneous perineal tear).

Concluding message

Most primiparous women had documented perineal trauma which, although not considered severe, may affect the muscular perineum structures. The absence of episiotomy was the only variable independently associated to second degree perineal tears; therefore, episiotomy showed a clear protective effect on this type of spontaneous perineal trauma.

References

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Disclosures

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