

RISK FACTORS FOR PERINEAL INJURY

Hypothesis / aims of study

Evaluate perineal injury results and identify its risk factors in vaginal delivery.

Study design, materials and methods

Retrospective study of the 3264 vaginal deliveries (forceps not included) recorded in our department during a 3-year period from 2010 to 2012. We analysed the risk of tear depending on the realisation of mediolateral episiotomy for the following variables: parity, professional assisting the deliver and birthweight. Tears are identified by Sultan's classification.

Results

Of 3264 vaginal deliveries in 1542 (47.3%) a mediolateral episiotomy was made. There was a tear in 1108 cases (34%) of the total of births and in 1035 (60.3%) cases in the no-episiotomy group. For this group tear degrees were: 1st = 643 (37.4%), 2nd = 381 (22.2%), 3rd = 11 (0.6%) and 4th = 0. Professional assistance was: residents (midwife-resident=1593 (48.4%) and gynecologist-resident=484 (14.8%)) and specialists (midwife=972 (29.8%) and gynecologist-specialist=213 (6.5%)).

There is a statistical significance between tear-degree and realisation or not of episiotomy. The odds ratio (OR) for $\geq 2^{\text{nd}}$ tear degree in case of no-episiotomy is 11.73 (95% CI: 8.147-16.902).

According to previous children, new mothers were: 1170 nuliparous (35.8%), 1418 primiparous (43.4%) and 675 multiparous (20.7%) (≥ 2 children). We have divided newborn weight into: low-weight when $\leq 3500\text{g}$ (67.8%) and high-weight (32.2%) when $> 3500\text{g}$.

In nuliparous group there were 106 (9.06%) cases of tear $\geq 2^{\text{nd}}$ degree, 72 in resident-assistant (67.92%), and 590 babies of low-weight (77.4%). For nuliparous assisted by residents with low-weight at birth the OR for a $\geq 2^{\text{nd}}$ tear degree in case of no-episiotomy was 20.663 (95% CI: 9.5353-44.78). When birthweight was high the OR was 10.286 (95% CI: 3.806-27.800). When assisted by specialist OR were, respectively: 12.219 (95% CI: 4.346-34.532) and 7.391 (95% CI: 2.440-22.390).

In primiparous mothers there was 252 births (12.77%) with a $\geq 2^{\text{nd}}$ tear degree: 169 in resident assistance (67.06%). Newborn weight was high in 527 cases (37.16%). For primiparous assisted by residents with high-weight at birth the OR for a $\geq 2^{\text{nd}}$ tear degree in case of no-episiotomy was 49.427 (95% CI: 6.957-352.161). In primiparous assisted by midwives there were 69 tears of $\geq 2^{\text{nd}}$ degree (15.61%): 42 in low-weight (15.5% of 271) newborns and 27 in high-weight (16% of 169).

In multiparous episiotomy was made in 117 deliveries (17.33%) with 1 case of 2nd-3rd tear degree. In the 558 births without episiotomy there was 62 (11.11%) with a $\geq 2^{\text{nd}}$ tear degree: 30 in low-weight babies and 32 in high-weight.

No statistical differences were observed among assistant category (resident vs specialist) in reference to $\geq 2^{\text{nd}}$ tear-degree ($P = 0.196$. Chi square). In births without episiotomy, there were statistical differences for the risk of $\geq 2^{\text{nd}}$ degree depending on assistant-category ($P = 0.019$. Chi square).

Interpretation of results

When no episiotomy is made in our vaginal deliveries a high risk of $\geq 2^{\text{nd}}$ tear-degree is identified in nuliparous with birth weight $\leq 3500\text{g}$ assisted by residents. For primiparous group there is a result divergence depending on professional assistance and birthweight: for residences a higher risk is found in birthweight $> 3500\text{g}$ whereas for midwife the risk is higher in low-weights.

Concluding message

Inconsistently to previous reports high newborn weight in vaginal deliveries not always becomes a high risk for perineal damage. It depends on the evaluation of the risk done by the professional assistant according to parity. Residents do not seem to estimate the risk of tear in nuliparous with low estimated fetal-weight, and they do not perform an episiotomy. Primiparous group seems to be considered as multiparous and not enough episiotomies are made since 2nd and 3rd tear-degree occurred in a too high percentage, especially for low birth weights in resident group and high birth weights in midwife group.

Disclosures

Funding: none identified **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** It is an observacional restrospective study with anonimized patients records **Helsinki:** Yes **Informed Consent:** No