Intrapartum risk factors for levator trauma.
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Abstract

OBJECTIVE: To determine intrapartum risk factors associated with levator trauma as identified by ultrasound imaging.

DESIGN: A prospective observational study.


POPULATION: Nulliparous women (n=488) in their first ongoing pregnancy.

METHODS: An interview and four-dimensional translabial ultrasound was carried out between 36 and 38 weeks and again 3-4 months after delivery. Obstetric data were collected from the hospital database and/or participants' records.

MAIN OUTCOME MEASURES: Levator macrotrauma ('avulsion') and microtrauma (irreversible overdistension).

RESULTS: A total of 367 women (75%) returned for the postpartum assessment after normal vaginal delivery (n=187, 51%), vacuum (n=34, 9%), forceps (n=20, 5%) and caesarean section (n=126, 34%). Median follow up was 4.08 months (interquartile range 3.68-5.03 months). Levator avulsion was diagnosed in 32 (13%) of the women who delivered vaginally and in none of the caesarean section group regardless of indication. On multivariable regression forceps delivery was significantly associated with avulsion (P=0.01; OR 3.83; 95% CI 1.34-10.94). Using >20% peripartum increase in hiatal area on Valsalva as the cutoff, 28.5% of vaginally parous women were shown to have suffered irreversible overdistension. This was positively associated with the length of second stage (P=0.001; OR 1.01 per minute; 95% CI 1.0-1.02). Intrapartum epidural appeared to have a protective effect (P=0.03; OR 0.42; 95% CI 0.19-0.93).

CONCLUSION: Levator trauma at the time of first delivery is associated with vaginal delivery, forceps and a longer second stage. Epidural pain relief may exert a protective effect.

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