326

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ASSESSMENT OF OVERACTIVE BLADDER AND URGENCY URINARY INCONTINENCE SIX WEEKS AFTER VAGINAL DELIVERY

Hypothesis / aims of study

Overactive bladder (OAB) and urgency urinary incontinence (UUI) are common problems affecting millions of people worldwide. These symptoms are more frequent in women and its prevalence increase with age. Parity has been associated with urgency (1) but only few studies have focused on the evaluation of this symptom short after delivery. The aim of this study was to assess the incidence of OAB and UUI six weeks after vaginal delivery and to analyze the risk factors involved.

Study design, materials and methods

A prospective cohort study was undertaken to evaluate OAB and UUI six weeks after vaginal delivery. The study group was selected from women who had a vaginal delivery at our Public Health Hospital from October 2012 to September 2013. Our aim was to study only the new cases of overactive bladder or UUI, so those women who had urinary urgency before or during pregnancy were excluded from the study. Other exclusion criteria were: multiple pregnancies, gestational age of less than 37 weeks, diabetes mellitus or a maternal history of the condition, previous urogynecological surgery, urogynecological malformations and neurological disorders.

In the follow up visit six weeks postpartum, we used the 2002 ICS definitions to interview the women about urinary symptoms (2). The diagnosis of OAB was made when the woman answered 'yes' to the urgency question, once we had ruled out any obvious pathology. Women with UI were asked to complete the validated Spanish version of the International Consultation on Incontinence short form questionnaire (ICIQ-UI-SF) (3).

To investigate the risk factors associated with OAB and UUI six weeks after delivery, we analysed the following variables: maternal age; maternal body mass index (BMI); mode of delivery; use of epidural anaesthesia; augmentation of labour with oxytocin; length of active second stage of labour; episiotomy; and birth weight.

Statistical analysis was done by proportion comparison (Chi-square and Fisher test) and multivariate analysis (multiple logistic regression model).

Results

We recruited 398 women who met inclusion and exclusion criteria. From the total, 376 (94.4%) attended the six weeks follow up visit and formed the study group. Mean age was 32.4 years (range:17-45) and mean BMI was 23.6 (range:17.3-48.1). In this group 190 (50.5%) were primiparous and 186 (49.5%) were multiparous.

Six weeks after delivery 56 (14.9%) women had OAB, 28 (7.5%) of which had UUI. Stress urinary incontinence (SUI) was present in 35 (9.3%) and 4 (1.1%) women referred mixed incontinence. The mean ICIQ-IU-SF score was 7.9 (range:3-16) in women with UUI; 8,7 (range: 3-16) in women with SUI; and 11.5 (range:6-16) in women with mixed incontinence.

The result of the univariate analysis performed to associate OAB and UUI with different variables is shown in table 1. Women delivered instrumentally were at greater risk of presenting OAB and UUI six weeks after childbirth. OAB was also more frequent among women with epidural anaesthesia and when birth weight was ≥ 4000 g but these did not reach statistical significance. UUI was also more frequent when active 2nd stage of labor was ≥ 1 h but it did not reach statistical significance. Multiple logistic regression models were performed including these variables (mode of delivery, epidural anesthesia and birth weight for OAB; and mode of delivery, active 2nd stage of labor for UUI). In both cases age and BMI were also included as potential confounders. These multivariate models indicated that instrumental assisted vaginal delivery was independently associated with OAB (OR: 2.31; 95% CI: 1.21–4.40) and with UUI (OR: 3.32; 95% CI: 1.49–7.42).

Table 1. Results of the univariate analysis performed to associate OAB and UUI with different variables

Obstetric and constitutional variables		**n**	**OAB six weeks postpartum** (n=56)			**UUI six weeks postpartum** (n=28)		
			n (%)	OR	95% CI	n (%)	OR	95% CI
Maternal age (years)	< 25	30	9 (10.1)	1.00	(reference)	9 (10.1)	1.00	(reference)
	25-34	215	22 (10.9)	1.26	(0.41-3.84)		1.26	(0.24-5.15)
	≥ 35	131	8 (12.1)	0.96	(0.30-3.12)		1.15	(0.24-5.56)
Maternal BMI	< 25	272	38 (14)	1.00	(reference)	23 (8.5)	1.00	(reference)
	≥ 25	104	18 (17.3)	1.28	(0.69-2.36)	5 (4.8)	0.54	(0.20-1.47)
Mode of delivery	Spontaneous	299	37 (12.4)	1.00	(reference)	16 (5.4)	1.00	(reference)
	Instrumental	77	19 (14.7)	2.32	(1.24-4.32)	12(15.6)	3.26	(1.47-7.23)

Use of oxytocin	no	125	19 (15.2)	1.00	(reference)	9 (7.2)	1.00	(reference)
	yes	251	37 (14.7)	0.96	(0.52-1.75)	19 (7.6)	1.05	(0.46-2.40)
Active 2nd stage of labor ≥ 1 h	No	365	54 (14.8)	1.00	(reference)	26 (7.1)	1.00	(reference)
	Yes	11	2 (18.2)	1.28	(0.26-6.08)	2 (18.2)	2.89	(0.59-14.11)
Epidural anesthesia	No	57	5 (8.8)	1.00	(reference)	2 (3.5)	1.00	(reference)
	Yes	319	51 (16.0)	1.97	(0.75-5.19)	26 (8.2)	2.44	(0.56-10.57)
Episiotomy	No	201	28 (13.9)	1.00	(reference)	13 (6.5)	1.00	(reference)
	Yes	175	28 (16.0)	1.17	(0.66-2.07)	15 (8.6)	1.35	(0.62-2.93)
Birth weight ≥ 4000 g	No	346	49 (14.2)	1.00	(reference)	27 (7.8)	1.00	(reference)
	Yes	30	7 (23.3)	1.84	(0.75-4.53)	1 (3.3)	0.40	(0.05-3.10)

CI: Confidence interval

Interpretation of results

The incidence of OAB and UUI six weeks after vaginal delivery was 14.9% and 7.5% respectively. Instrumental assisted vaginal delivery more than doubled the risk for OAB, and increased the risk for UUI by more than three times.

Concluding message

Overactive bladder and urgency urinary incontinence can emerge shortly after vaginal delivery. Instrumental delivery may play a role in the development of these symptoms.

References

1. Obstet Gynecol 2000; 96: 446–451
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Disclosures

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