420

Ros C[1], Martinez-Franco E M[2], Elias N[1], Lopez M[1], Palacio M[1], Espuña M[1]
***1.** Hospital Clinic de Barcelona, **2.** Parc Sanitari Sant Joan de Deu, St. Boi*

PELVIC FLOOR SYMPTOMS AND STRENGTH OF PELVIC FLOOR MUSCLES IN WOMEN WITH HISTORY OF OBSTETRIC ANAL SPHINCTER INJURIES. ANALYSIS ACCORDING TO THE MODE OF DELIVERY.

Hypothesis / aims of study

Obstetric anal sphincter injuries (OASIS) are considered an important risk factor for anal incontinence after vaginal delivery (1). Patients with OASIS have usually suffered traumatic deliveries which could also affect urinary and sexual function (2). The aim of the study was to investigate the short- and long-term effects in terms of symptoms of pelvic floor dysfunction, after primary repair of OASIS, according to the mode of delivery.

Study design, materials and methods

A multicentric observational study was conducted at two universitary hospitals, from September 2012 to September 2013. Two different cohorts of patients who suffered an OASIS identified and repaired intrapartum were assessed: a retrospective cohort, with patients who had delivered more than a year before the inclusion of the study (a single visit). And an ongoing prospective cohort, including women who have been prospectively followed at 40 days, 3 months and 6 months after delivery (3 visits).
All patients were asked to fill four validated questionnaires for pelvic floor symptoms and quality of life: ICIQ-UI-SF for urinary incontinence, Wexner and Vaizey for fecal incontinence, and PISQ-12 for sexual function. Pelvic floor muscle function was assessed by digital palpation and classified according to the Oxford scale and by perineometry (Peritron®, Cardio-Design, Victoria). The integrity of the levator ani was evaluated also by digital palpation. Patients were sorted by the mode of delivery: spontaneous (SD) *vs* instrumental delivery (ID) using Kjelland forceps, Naegele forceps, ventouse or Thierry spatulas. Results of both groups were compared.

Results

A total of 122 patients with OASIS were included in the study: 61 patients in the retrospective cohort and 61 in the prospective cohort. Basal data are shown in table 1.

TABLE 1.- Basal demographic data of the patients included in the study.

	Retrospective cohort		Prospective cohort	
	SD (n=23)	ID (n= 38)	SD (n=27)	ID (n=34)
Age at delivery (years)	31.9 ± 4,7	32.6 ± 5.3	32.3 ± 4.2	32.2 ± 5.0
Gestational age (weeks)	40.1 ± 0.8	39.9 ± 1.4	40.2 ± 1.1	39.8 ± 1.1
Newborn weight	3556 ± 461	3423 ± 372	3512 ± 491	3361 ± 418
Lapse time between delivery and study visit (days)	1766 ± 562	1628 ± 626	-	-

Among all 122 patients, those women who instrumentally delivered showed worse degree of OASIS than spontaneous delivery women (p=0.012), in particular with Kjelland forceps (p=0.021) (Table 2).

Statistically significant differences were found between SD and ID among the retrospective cohort. Women with ID showed worse results in the Oxford score (p = 0.014 in U-Mann Whitney test). These results were objectively confirmed by perineometry, showing worse maximum and mean contraction force in ID (p = 0.04 and p = 0.05, respectively). In addition, more defects of the levator ani muscle were detected in ID group (60.1%), compared to SD patients (39.1%; p = 0.006). Finally, women who had delivered instrumentally scored less satisfactory in Wexner and Vaizey questionnaires than those with SD (p = 0.036 and 0.022 respectively) (Fig 1).

TABLE 2.- OASIS degree of patients diagnosed intrapartum, according to the mode of delivery.

OASIS degree	Total (n=115)	Spontaneous (n=47)	Vacuum (n=5)	Spatules (n=14)	Kjelland (n=30)	Naegel (n=19)
IIIa	63 (54,8%)	32 (68.1%)	2 (40.0%)	7 (50.0%)	13 (43.3%)	9 (47.4%)
IIIb	40 (34.8%)	13 (27.7%)	3 (60.0%)	5 (35.7%)	12 (40.0%)	7 (36.8%)
IIIc	8 (7.0%)	1 (2.1%)	-	2 (14.3%)	4 (13.3%)	1 (5.3%)
IV	4 (3.5%)	1 (2.1%)	-	-	1 (3.3%)	2 (10.5%)

Considering the preliminary results of the ongoing prospective cohort, ID patients presented worse results in the Oxford score at the 40-days postpartum visit (p = 0.04), compared to SD women (Fig 1). Additionally, patients who delivered instrumentally scored less satisfactory in the PISQ-12 test than those with SD (p = 0.05) at 3rd-month postpartum visit (Fig 1). No differences in the rest of physical variables, ICIQ-UI-SF or Wexner and Vaizey questionnaire were found between both groups of the prospective cohort.

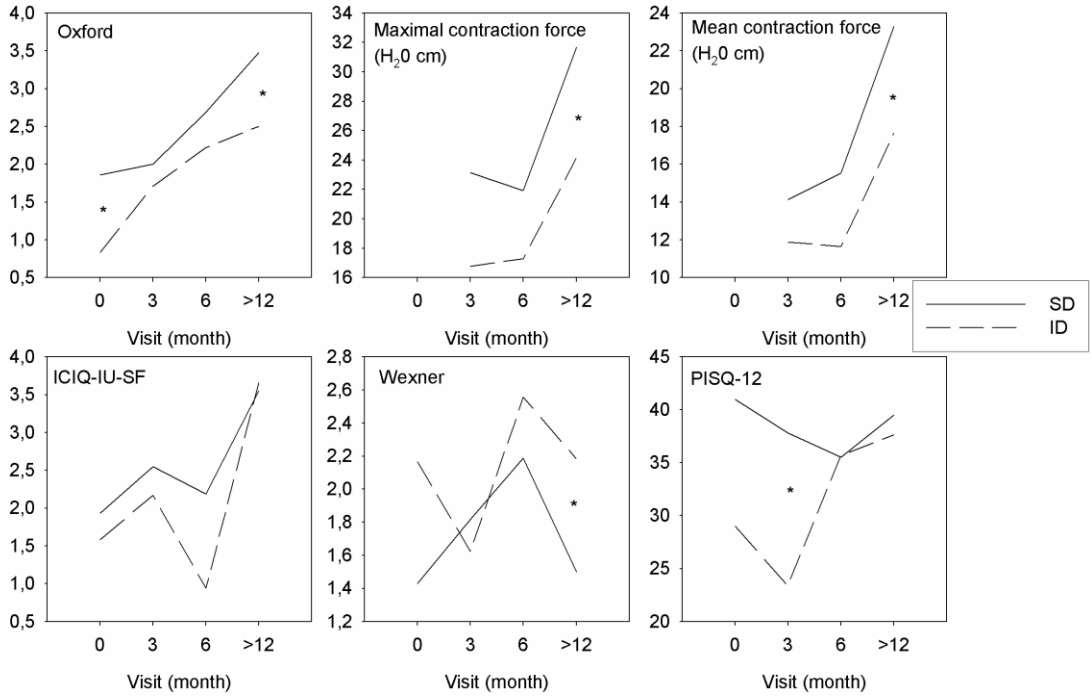

Fig 1. Average results of the pelvic muscles strength and questionnaires at 40 days (0), 3, 6 months (prospective cohort) and more than a year postpartum (>12; retrospective cohort). SD and ID patients results were compared (* p <0.05 in U-Mann Whitney test).

Interpretation of results

Women with OASIS history often suffered traumatic deliveries which have consequences on pelvic floor function. In women who had an instrumental delivery by forceps, pelvic floor muscle strength seems to recover worse than in women with spontaneous deliveries and could cause sexual dysfunction at 3 months postpartum. The highest rate of symptoms of anal incontinence at long term, in women with OASIS and instrumental delivery, may suggest also a greatest pelvic floor trauma, a part of the anal sphincter lesion.

Concluding message

Although spontaneous deliveries could cause OASIS, instrumental deliveries add more pelvic floor dysfunctions from immediate postpartum, that worse anal and sexual function.

References

1. Abramowitz L, Sobhani I, Ganansia R, Vuagnat A, Benifla JL, Darai E, Madelenat P, Mognon M. Are sphincter defects the cause of anal incontinence after vaginal delivery? Results of a prospective study. Dis Colon Rectum (2000) 43:590-598.
2. Wegnelius G and Hammarström M. Complete rupture of anal sphincter in primiparas: long-term effects and subsequent delivery. Acta Obstet Gynecol Scand (2010) 90:258-263.

Disclosures

Funding: No funding to be disclosed **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** CEIC Hospital Clinic de Barcelona **Helsinki:** Yes **Informed Consent:** Yes