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Obstetrical anal sphincter injuries and symptoms after subsequent deliveries: A 60 patient study

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ABSTRACT

Introduction: More than half of women with a history of prior obstetric anal sphincter injuries (OASIS) will have another pregnancy. Currently, little is known concerning post-partum perineal symptoms in cases of a subsequent vaginal delivery. The aim of this study was to assess the frequency of perineal functional symptoms following a vaginal delivery after OASIS while comparing them to patients who did not have a subsequent delivery.

Material and method: Retrospective cohort study between January 2000 and December 2011. A questionnaire was sent by post to all women who sustained an OASIS at the Poitiers University Hospital, France. Perineal functional symptoms and quality of life were assessed using validated self-administered questionnaires: Female Pelvic Floor Questionnaire, Pescatori anal incontinence score, EuroQoL five-dimension score, and pain visual analogue scale.

Results: 159 women of 237 contacted (67%) responded to the questionnaire, on average 46 months after the delivery complicated with OASIS. 135 (85%) of women had a 3rd degree laceration and 24% a 4th degree laceration. 99 women (63%) did not have an ensuing delivery since the event (OASIS – No Subsequent Delivery: SD-). 60 women (37%) had a subsequent delivery (OASIS –Subsequent Delivery: SD +), with 53 (88%) having a vaginal birth. Among these women, 3 (6%) experienced a recurrent OASIS. The mean score for perineal symptoms (FPFQ) was 6.95 in the OASIS-SD (–) group and 7.40 in the OASIS-SD (+) group (p = 0.64). No significant difference in quality of life (EuroQol 5D) was found between the two groups (p = 0.91).

Conclusion: We did not observe a deterioration of perineal functional symptomatology after vaginal delivery in women with known prior OASIS, compared to women who did not have a subsequent delivery. Even if the risk of occurrence of these lesions is higher in women with history of previous OASIS compared to those without perineal injury, it is still comparable to incidence among primiparous women.

Introduction

Obstetric anal sphincter injuries (OASIS) during childbirth have a reported incidence varying between 0.6 and 7.3% [1–5] and are strongly associated with primiparity (RR, 7; 95% IC, 3,3–14,8) [6]. Following OASIS, approximately 40% of patients present with symptoms of fecal incontinence [6–10] and describe a negative impact on quality of life during the postpartum [11,12]. 60% of women with OASIS will have a subsequent pregnancy [13]. Currently, data is scarce concerning perineal symptoms in cases of vaginal delivery with known prior OASIS. Some authors have reported a higher risk of fecal incontinence as well as deterioration in ano-rectal symptoms [11,14,15], while others have shown no significant impact [13,16–20]. Elective cesarean section was not found to be associated with a risk reduction [18]. In this context, proper counselling of patients with regard to possible post-partum perineal symptoms is difficult. Recommendation of the mode of delivery could be facilitated with further knowledge on outcomes of subsequent vaginal births after OASIS.

The aim of this study was to assess the frequency of perineal functional symptoms following a vaginal delivery after OASIS while comparing them to patients who did not have a subsequent delivery.

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Method

This is a cohort retrospective study of all women who sustained an OASIS following vaginal delivery in a French tertiary center from January 2000 to December 2011. OASIS were identified in the hospital data by their relevant codes as per the International Classification of Diseases (ICD-10): O70.2 (OASIS 3rd degree) and O70.3 (OASIS 4th degree) [21]. We then confirmed the diagnosis according to the medical chart and documented the clinical information of each patient.

A questionnaire was sent by post to all identified patients. Perineal symptomatology was evaluated by the Female Pelvic Floor Questionnaire (FPFQ) [22], which was validated in French [23]. The questionnaire is self-administered, comprising of 37 questions exploring aspects of pelvic floor dysfunction in four areas: bladder, bowel, prolapse and sexual function.

Each question has four possible answers of increasing severity (never, occasionally, frequently, or daily). The questions are associated to a Likert scale [24] permitting calculation of a 10 point subscore for each area. The FPFQ was complemented by the EuroQol-5D score, which is a five-dimension questionnaire that measures health-related quality of life (mobility, self-care, usual activities, pain/discomfort and anxiety/depression), and the Pescatori grading system of anal incontinence [25]. A visual analog scale (VAS) was used to rate chronic pelvic pain.

Patients with a history of urinary/fecal incontinence prior to pregnancy, inflammatory bowel disease and/or anorectal surgery were excluded from the study.

Women who underwent a vaginal delivery after OASIS (OASIS – Subsequent Delivery: SD +) were compared to women who did not deliver since the event (OASIS – No Subsequent Delivery: SD-). Patients who delivered by cesarean section were excluded from the analysis.

After comparing the principal risk factors for OASIS between the two groups, we described the delivery modalities. We then compared the perineal functional symptomatology between the groups.

Continuous variables were described by their mean and 95% Confidence interval (CI). Comparison of the means was performed by Student *t* test. Categorical variables were described by their frequency. Comparison between frequencies was performed by Chi-2 or Fisher exact test as appropriate. The level of significance was set at $p\text{-value} < 0.05$. The institutional review board of the French college of obstetricians and gynecologists approved the study (CEROG 2013-GYN-01-01-R2). Data was analyzed using STATVIEW (2010, USA).

Results

Demographic and obstetrical characteristics

Between 2000 and 2011, 28293 patients gave birth in our center of whom 24548 (87%) delivered vaginally with 40% (n = 9819) of women being primiparous and 60% (n = 14729) multiparous. The incidence of OASIS during the study period was 1% (n = 243) for all patients. 6 patients were excluded from our study. Among primiparous women the rate was 2% (n = 191), and 0.3% (n = 46) in multiparous women. Of the 237 patients contacted by mail, 67% (n = 159) returned the completed questionnaire, with a mean of 46 months after the delivery complicated with OASIS. 80% (n = 127) of patients were primiparous at the time of the index delivery. The proportion of women sustaining a 3rd degree tear was 85% (n = 135) and 4th degree was 15% (n = 24).

63% (n = 99) of the study population did not deliver since the index case of OASIS, and constituted the OASIS-SD (–) group. 37% (n = 60) delivered since the index case; 53 patients vaginally, constituting the OASIS-SD (+) group, and 7 patients by cesarean section (Fig. 1).

We found no significant difference between the groups OASIS-SD (–) and OASIS-SD (+) concerning the principal risk factors for OASIS: maternal age, BMI, gestational age and fetal birth weight (Table 1).

Subsequent delivery characteristics

Among the 53 women who delivered vaginally (OASIS-SD (+) group), 17% (n = 9) retained an intact perineum, 26% (n = 14) sustained a superficial laceration, 42% (n = 22) a first or second-degree perineal laceration, 9% (n = 5) underwent episiotomy and 6% (n = 3) suffered a 3rd degree tear. Among the 7 cesarean sections, 4 were planned due to a history of 4th degree tear, and 3 were initiated during labor.

Functional perineal symptomatology (Table 2)

Less of 5% of questions in the FPFQ questionnaire were unanswered. The global FPFQ scores, as well as the subscores (bladder, bowel, prolapse, sexual function), were similar between the two groups: OASIS-SD (–) 6.95 CI [0,9–21,8] and OASIS-SD (+) 7.4 CI [0,9–31,9] (p = 0,64). Furthermore, levels of chronic pain measured by VAS were similar in both groups (1.07 CI [0–7,3] versus 0.61 CI [0–5,1] p = 0,09).

Bladder dysfunction

Stress urinary incontinence was deemed “frequent or daily” by 13% of women among the OASIS-SD (–) group and 14% in the OASIS-SD (+) group.

80% of patients in the OASIS-SD (–) group versus 22% in the OASIS-SD (+) group presented urinary leakage “frequently or daily”, associated with physical activity like coughing, laughing, or exercising. The question “Do you need to strain to empty your bladder?” identifying dysuria, elicited responses of “frequent or daily “ in 9% of patients in the group OASIS-SD (–) and 8% in the group OASIS-SD (+).

Bowel dysfunction

The Pescatori score results were similar in both groups (OASIS SD(–) 1,2 CI [0–4] vs OASIS SD(+) 1,3 CI [0–4] p = 0,61). In the OASIS-SD (–) group, 18% of women declared flatus, 1% loose watery stool incontinence and 1% normal stool incontinence at a regularity of “frequent or daily”, with rates of 17%, 2% and 2% respectively in the OASIS-SD (+) group. Obstructed defecation, reported by the question “Do you strain a lot to empty your bowels?” was identified as “frequent or daily” by 15% of women in the OASIS-SD (–) group and 17% in the OASIS-SD (+) group.

Prolapse

Symptoms related to prolapse were similar between the two groups. In the OASIS-SD (–) group, 5% of women complained of lump protrusion from the vagina and 14% of a feeling of vaginal heaviness occurring “frequently,” versus 7% and 13% respectively for women in the OASIS-SD (+) group.

Sexual function

The majority of patients described a “moderate” or “high” libido during the previous month, with similar frequency between the two groups; 59% in the OASIS-SD (–) and 55% in the OASIS-SD (+) groups.