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# LONG TERM OUTCOME ASSESSMENT AFTER PRIMARY REPAIR OF OBSTETRIC ANAL SPHINCTER INJURY.

Hypothesis / aims of study

The aim of this study is to test the null hypothesis that there is no increase in the number of symptomatic women at 5-6 years after an obstetric anal sphincter injury as compared with the initial 6-week post-partum follow-up. We also wished to examine anal pressures and anal sphincter integrity.

Study design, materials and methods:

This study had ethical approval. All women (147) who sustained obstetric anal sphincter injury between 1 January 1997 and 31 December 1998 were *invited* for assessment of ano-rectal symptoms, anal manometry and ano-rectal ultrasound. A Gaeltec solid-state pressure transducer was used to record maximum resting and squeeze pressures. Anal ultrasound was also performed (BK medical diagnostic ultrasound system (3535) and rectal probe (type 1850) with a 10MHz crystal).

Results:

***Patient characteristics*:** There were 12,630 women who delivered in the study period. Of these, 147 (1.16%) sustained obstetric anal sphincter injury. At 69 months (range 56-80 months), 24/147 women responded to an invitation for assessment (16% of the total with injury). Their mean age was 36 years (range 29 – 44 years). Anal sphincter injury occurred in 11/24 (46%) women during normal vaginal delivery; 3/24 (13%) during Ventouse delivery; and 10/24 (41%) during non-rotational forceps delivery. Although 10/24 women had had an episiotomy, 9 of these were associated with an instrumental delivery. The mean birthweight was 3675 g (range 2991 – 4550 g).

***Symptoms*:** All 24 women who responded to our ivitation, had been seen at 6 weeks postpartum for symptom review and clinical examination when, 8/24 **(33%)** were symptomatic: 2/24 women had faecal incontinence and were referred to the colo-rectal surgeons for further management and 6/24 women had faecal frequency and urgency and were referred for pelvic muscle exercises. At 69 months (range 56-80) later, 19/24 women **(83%)** were symptomatic ($p<0.001$). Their symptoms varied from faecal urgency to frank faecal incontinence (Figure 1).

***Anal manometry and endoanal ultrasound:*** Mean maximum resting pressures of women with internal sphincter defect was significantly lower than those with an intact sphincter (43 vs 56 cm $H_2O$; $p<0.05$). Similarly, there was a significant difference in mean squeeze pressures of women with an external sphincter defect and those with an intact external sphincter (76 vs 103 cm $H_2O$; $p<0.02$). Mean squeeze pressure in symptomatic women was lower than in asymptomatic women (83 vs 115 cm $H_2O$; $p<0.05$).

Ultrasound showed 20/24 (88%) women to have sphincter defects. All 19 symptomatic women had sphincter defects ($p<0.02$). The majority of these defects (13) were external anal sphincter defects and the remainder were internal anal sphincter defects.

Interpretation of results

This is the first study comparing symptoms of lower bowel dysfunction in women at both short and long term follow-up after repair of an obstetric anal sphincter injury. We have shown that significantly more women became symptomatic 5 - 6 years after primary repair of an obstetric anal sphincter injury. We find that at long-term follow-up, symptoms, sphincter defects and low pressures are all associated.

Concluding message

This study highlights the need to revisit the current follow-up policies and long term management of women with obstetric anal sphincter injury. Two aspects of this study are striking. First, that there was such a large rise in the number of symptomatic women between

their 6 week follow-up and 69 months after initial injury. Second that during this period, so many women did not seek medical consultation although they were symptomatic.

Figure 1