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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<sub>2</sub>O; 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<sub>2</sub>O; p<0.02). Mean squeeze pressure in symptomatic women was lower than in asymptomatic women (83 vs 115 cm H<sub>2</sub>O; 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

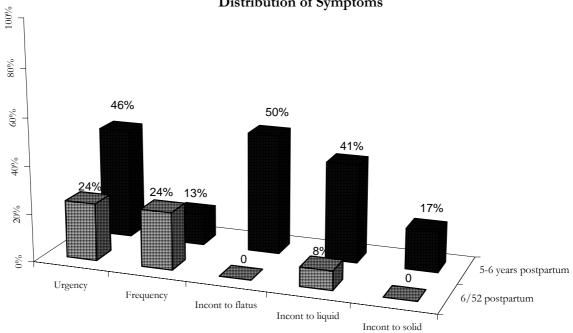
This is the first study comparing symptoms of lower bowel dysfunction in women at both short and long term follow-up after repair of an obstetric anal sphincter injury. We have shown that significantly more women became symptomatic 5 - 6 years after primary repair of an obstetric anal sphincter injury.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



**Distribution of Symptoms**