

## FACTORS INFLUENCING THE MODE OF SUBSEQUENT DELIVERY IN WOMEN WITH SIGNIFICANT OBSTETRIC ANAL SPHINCTER INJURY (OASI).

### Aims of study

Obstetric and anal sphincter injury (OASI), quoted to occur in up to 2.5% of women following a vaginal delivery, is the single most important factor for the development of faecal incontinence. Primary repair after OASI still leads to problems of both anal incontinence (37%) and faecal incontinence (9%) (1). This is hardly surprising because sphincter defects persist in 40-91% on endoanal ultrasound (EAUS) despite primary repair.

There were two management pathways in pregnant women who have a history of OASI: firstly, vaginal delivery with a large episiotomy with early recourse to caesarean section should labour be prolonged or instrumental delivery be indicated and secondly, elective caesarean section (2). A selective approach has been suggested based on EAUS and anorectal physiological data (ARP). (3).

The aim of this study was to determine factors influencing the mode of subsequent delivery in a cohort of women with a history of OASI taking into account patient choice, EAUS findings and ARP results.

### Study design, materials and methods

Between November 2001 and September 2004 all women with an OASI underwent EAUS and ARP at review with access to a combined pelvic floor clinic. At subsequent booking their mode of delivery was discussed taking into account patient choice, their symptoms and investigation results. Asymptomatic patients with normal EAUS and ARP were offered vaginal delivery.

### Results

35 women with OASI after previous delivery were studied. None had faecal incontinence. 30 patients were investigated during their subsequent pregnancy. 5 patients had undergone anorectal physiology studies within 12 months of the original obstetric injury. One patient defaulted from ARP. One patient underwent EAUS without ARP. These two patients were excluded from the analysis.

24 (72.7%) women had no identifiable residual defect on EAUS and also have normal manometry. These patients were advised they were eligible for a normal vaginal delivery. However, 13 of these patients elected to have a planned caesarean section (see Table 1). Three of this latter group had minor anal symptoms but with a faecal incontinence (FI) score of <4/24. Of the 11 women who elected for vaginal delivery, two patients underwent caesarean section for obstetric reasons. None of these women sustained another OASI. No patient in this group went on to develop faecal incontinence when reviewed at six months following the second delivery. (Table 2 shows results of the ARP in women with and without sphincter defects).

		Mode of delivery		n = 33 (%)
EAUS Defects	N	Planned Vaginal delivery		11 (33.3)
		Elective Caesarean Section	Patient Choice	13 (39.4)
	>	Elective Caesarean Section	Abnormal EAUS	9 (27.3)

Table 1. Mode of subsequent delivery in women with OASI

Total	No Defects on EAUS	Defects seen on EAUS	p Value
n = 33	n = 24	n = 9	
Resting Pressure	57.0 (17.8)	50.0 (24.0)	NS
Squeeze increment	40.0 (43.8)	22.0 (35.5)	NS

Table 2. Anorectal manometry in mmHg (median & inter quartile range) in women with and without EAUS defects after a previous OASI

#### Interpretation of results

In this study group, one third of the patients with normal ARP and EUAS went on to a planned vaginal delivery. Despite normal investigations some patients chose to undergo elective caesarean section.

In assessing patients' anorectal function, laboratory and EUAS results were not statistically different when patients with and without sphincter defects on endoanal ultrasound were compared. Although all our patients had low FI scores these do not reflect the demoralising effect of minor anal incontinence. However, this symptom may be the reason that women elect to have a caesarean section following obstetric trauma.

#### Concluding message

This is one of a few studies which have examined the mode of subsequent delivery in women with OASI to use EAUS, ARP and symptoms in the decision making. Whilst we can continue this programme, we are currently investigating if there are any other reasons for elective caesarean section in this group.

#### References

1. Lower genital tract and anal sphincter trauma. *Best Pract Res Clin Obstet Gynaecol* 2002;**16**:99–116
2. Preserving the pelvic floor and perineum during childbirth-elective caesarean delivery. *Br J Obstet Gynaecol* 1996; 103:731±734.
3. Effect of second vaginal delivery on anorectal physiology and faecal incontinence: a prospective study. *Lancet* 1999;**354**: 983–6.