

CAN TRAINED DOCTORS ALTER THE OUTCOME FOR WOMEN FOLLOWING OBSTETRIC ANAL SPHINCTER INJURIES (OASIS)?

Hypothesis / aims of study

OASIS is the major cause of anal incontinence and can have a dramatic effect on a woman's physical and social wellbeing. There are only 3 previous prospective studies that have reported on outcome one year after primary repair. Anal incontinence occurred in 23 to 59%^{1,2} and a persistent ultrasound defect was seen in 58 to 91%^{3,2}. We aimed to determine whether adherence to a structured protocol of repair could have an impact on outcome.

Study design, materials and methods

Women having their first vaginal delivery between February 2003 and January 2004 were recruited into a prospective study in which a perineal examination was repeated by a trained research fellow, and perineal trauma was documented according to the new recommended classification⁴. In addition endoanal ultrasound was performed immediately after delivery (before repair) using the B&K 360° rotating endoanal probe (10MHz).

All women who sustained OASIS were managed according to the following protocol⁵:

1. Repairs were conducted in theatre
2. Repairs were performed by obstetricians experienced in sphincter repair who had attended a hands-on training workshop or by obstetricians under supervision.
3. A special perineal repair instrument tray was used for the repair which contains a Weislander self retaining retractor, four Allis tissue forceps, McIndoe scissors, tooth forceps, four artery forceps, stitch scissors and needle holder.
4. Tears which are classified as 3a where less than 50% of the external anal sphincter (EAS) is disrupted were repaired by the end to end technique.
5. Grade 3b tears (more than 50% of the EAS is disrupted) - the EAS was completely divided and repaired by the overlap technique.
6. The internal anal sphincter (IAS) was identified and repaired separately when damaged.
7. The IAS and EAS were repaired using 3/0 PDS.
8. All women were given intravenous antibiotics at the time of repair and had oral antibiotics continued for a week.
9. All patients received lactulose and fybogel for two weeks.

In this study we present the outcome at 1 year of the 59 women who sustained OASIS. All women had endoanal ultrasound 7 weeks postpartum and completed a validated bowel questionnaire at 7 weeks and 1 year after delivery.

Results

All fifty nine women who sustained OASIS attended follow up at a median of 7 (range 5 – 12) weeks and 43 (73%) completed a questionnaire 1 year later. Twenty eight sustained 3a tears, 30 had 3b tears, and 1 a 4th degree tear (involving the anal sphincter and mucosa). Endoanal ultrasound before repair confirmed OASIS. Six (10%) had a defect on ultrasound (1 combined EAS & IAS defect, and 5 EAS defects only). No women had faecal incontinence. There was no significant difference in symptoms of faecal urgency or flatus incontinence before, at 7 weeks or one year after delivery (Table 1). There was no difference in quality of life one year after a primary repair (Table 2).

Table 1 Flatus Incontinence and defaecatory symptoms

	Before delivery	7 weeks postpartum	1 year postpartum	P value* Before delivery compared to 1 year	P value* 7 weeks compared to one year
Flatus incontinence	2 (5%)	1 (2%)	2 (5%)	1.00	0.10
Faecal urgency	5(12%)	4 (10%)	2 (5%)	0.20	0.01

*Fisher's exact test**

Table 2 Quality of life of women 1 year after primary repair of OASIS

	Before delivery n=39	7 weeks postpartum n=39	1 year postpartum n=39	P value ⁺
General Health Perceptions	17 (0 – 50)	21 (0-50)	17 (0-75)	0.37
Incontinence impact	15 (0 – 75)	19 (0 – 100)	11 (0 - 75)	0.29
Role limitations	2 (0 – 50)	7 (0 – 50)	7 (0 - 50)	0.09
Physical limitations	3 (0 – 62.5)	4 (0 – 50)	5 (0 - 50)	0.19
Social limitations	2 (0 – 50)	2 (0 – 25)	3 (0 – 50)	0.21
Personal relationships	1 (0 – 25)	4 (0 – 50)	7 (0 – 75)	0.05
Emotions	5 (0 – 58)	10 (0 – 50)	8 (0 – 58)	0.25
Sleep / energy	3 (0 – 37.5)	5 (0 – 50)	5 (0 – 37.5)	0.46
Severity measures	10 (0 – 80)	7 (0 – 60)	7 (0 – 65)	0.64

Friedman test[†]

Interpretation of results

This is the first study to evaluate symptoms of anal incontinence, quality of life and endoanal ultrasound findings when OASIS were classified accurately according to the new international classification of perineal trauma. Trained doctors who followed a recommended protocol were able to dramatically reduce rates of anal incontinence and persistent anal sphincter defects after primary OASIS repair. The outcome for women with a full thickness EAS tear (3b) was not significantly different to those who had a partial thickness tear (3a).

Concluding message

We have shown that compared to previous studies^{1,2,3} outcome of OASIS repair can be improved after structured training and strict adherence to this recommended protocol. Furthermore we found no adverse impact on quality of life one year after a primary repair. Individual obstetric units need to audit their outcome following OASIS and determine whether a change in clinical practice needs to be implemented.

References:

1. Incontinence following rupture of the anal sphincter during delivery. *Obstet Gynecol* 1993; 82: 527 – 31.
2. Objective methods cannot predict anal incontinence after primary repair of extensive anal tears. *Acta Obstetrica et Gynecologica Scandinavia* 1998; 77(4): 439 – 443.
3. Anal endosonographic findings in the follow-up of primarily sutured sphincteric ruptures. *Br J Surg* 1992; 79: 104-6.
4. Obstetric perineal injury and anal incontinence. *Clinical Risk* 1999; 5:193-196.
5. Management of obstetric anal sphincter injury. *The Obstetrician and Gynaecologist*. 2003; 5(2): 72-78.