

## ARE WE GETTING BETTER AT DIAGNOSING, TREATING, AND MANAGING OBSTETRIC ANAL SPHINCTER INJURIES (OASIS)?

### Hypothesis / aims of study

Obstetric anal sphincter injury (OASIS) is the most common cause of anal incontinence and ano-rectal symptoms in women. Sustaining an OASIS carries a significant impact on women's physical and emotional health. The hallmark of adequate management relies on correct diagnosis immediately after the injury occurs according to RCOG guidelines with sub-classification into grade 3A, 3B, 3C or 4<sup>th</sup> degree tears and subsequent follow-up in dedicated perineal clinics. The implementation of a hands-on workshop has been suggested to improve OASIS classification and consequent repair. The aim of our study was to evaluate the effect of a hands-on workshop, protocol adherence, and 3D transperineal ultrasound follow-up on the diagnosis, management and outcome of women with OASIS.

### Study design, materials and methods

For the past 10 years all women who sustain OASIS undergo follow up in a dedicated Urogynecology/perineal clinic. In December 2011 a hands-on training workshop was conducted in our tertiary referral centre. From then on all women who sustain OASIS undergo repair in the operating theatre by a trained obstetrician gynaecologist or by a colorectal surgeon. The subsequent follow up included an interview, pelvic examination, standardized pelvic floor, sexual function, and Cleveland Clinics Incontinence Score (CCIS) questionnaires and transperineal ultrasound examination (GE Kretz Voluson 730, E6 or E8). Ultrasound datasets were analyzed offline (4DView) at a later time blinded to the clinical data. The sphincter was evaluated using tomographic ultrasound imaging (TUI). A residual sphincter defect was defined as any defect in either the external anal sphincter (EAS) or the internal anal sphincter (IAS) on at least four out of six slices greater in size than 1 hour of the 12 hour clock face or an angle of > 30°. Statistical analysis was performed using SPSS and a two-sided P-value of < 0.05 was considered statistically significant. The groups before and after the structured management protocol were studied with regards to pelvic floor and anal incontinence symptoms and residual sonographic defects.

### Results

There were 173 and 188 women with OASIS before and after the workshop, respectively. Labour ward tear classification after the workshop included 3A – 108 (57.4%), 3B – 32 (17%), 3C – 26 (13.8%), and 4<sup>th</sup> degree tears – 22 (11.7%). There were no differences between the groups in age, BMI, nulliparity rate (71%), gestational week, fetal weight, fetal head circumference or fetal gender. After the implementation of structured management there was a trend towards a decrease in the use of instrumental deliveries, second stage duration, epidural anaesthesia, and episiotomy use, but none of these reached statistical significance. Structured management improved adherence to follow up visits ( $p < 0.001$ ). Symptoms of stress incontinence, dyspareunia, and anal incontinence improved in the second group, but this reached significance only for the rate of CCIS $\geq$ 4 ( $p = 0.043$ ). On ultrasound there was a trend towards a longer perineal body, wider transverse muscle width, less residual EAS and IAS defects that did not reach statistical significance. Overall there were significantly less residual defects in women after structured management ( $p = 0.017$ ). These findings are shown in Table 1.

Table 1: Comparison between groups before and after structured hands-on training.

Parameter	Before workshop N=173	After workshop N=188	P
<b>Demographics</b>			
Instrumental delivery (percentage)	27.2	20.2	NS
Duration 2 <sup>nd</sup> stage (minutes)	108.6 $\pm$ 73	102.6 $\pm$ 80	NS
Epidural use (percentage)	75.7	69.1	NS
Episiotomy (percentage)	54.9	47.9	NS
Time from delivery to first follow-up (mos)	10 $\pm$ 16.4	5.2 $\pm$ 6.3	<0.001
Time from delivery to second follow-up (mos)	29.4 $\pm$ 19.2	18.7 $\pm$ 16.5	<0.001
Time between 2 follow-up visits (mos)	21.9 $\pm$ 16.7	14.2 $\pm$ 14	0.001
<b>Symptoms</b>			
CCIS	2.2 $\pm$ 2.8	1.9 $\pm$ 2.8	NS
CCIS $\geq$ 4	31.7	22	0.043
CCIS flatus (percentage)	54.3	47.3	NS
CCIS solid stool (percentage)	8	8	NS
Dyspareunia (percentage)	9.6	6.4	NS
Stress incontinence (percentage)	40.2	34.6	NS
<b>Ultrasound</b>			
Perineal body length	6.5 $\pm$ 3	7.1 $\pm$ 3.1	0.081
EAS residual defect (percentage)	90.7	83.6	0.092
IAS residual defect (percentage)	23.4	17.5	NS
Transverse muscle width (mm)	4.3 $\pm$ 3.1	4.8 $\pm$ 2.7	NS
Residual defect (degrees)	93.9 $\pm$ 37.2	91.6 $\pm$ 40.0	NS
Any residual defect	91.9	83.4	0.017

### Interpretation of results

While this was not a prospective study, it still seems that women had a trend to fare better after the implementation of a structured management workshop, in terms of symptoms and residual sonographic findings. However, we expected a greater improvement which we did not find over the follow up time. A longer follow up period with repeated visits is planned, and a repeat workshop was performed. This study highlights the importance of training and adequate follow up.

### Concluding message

Structured training and follow-up in a dedicated Urogynecology/perineal clinic by experienced staff, using a validated bowel symptom questionnaire and 3D transperineal ultrasound, may improve patient outcome after OASIS.

### References

1. Ultrasound Obstet Gynecol 2010; 36: 368–74
2. Ultrasound Obstet Gynecol 2012; 39: 83–90
3. Int Urogynecol J 2009; 20: 407–410

### Disclosures

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