

OBSTETRIC ANAL SPHINCTER INJURY (OASI) REPAIR- A PROTOCOL WITH A DIFFERENCE?**Hypothesis / aims of study**

Anal incontinence occurs in up to 5% of vaginal deliveries in the United Kingdom. It is a serious and debilitating condition that is under-reported because of embarrassment and associated social stigma.

Obstetric anal sphincter injury is the major cause of anal incontinence. Despite primary repair 85% of women have persistent sonographic defects¹. Anal incontinence following obstetric anal sphincter injury occurs in 40% of women after a primary anal sphincter repair.²

Aim: To determine whether strict adherence to a recommended repair protocol³ can reduce the incidence of anal incontinence following obstetric anal sphincter injury.

Study design, materials and methods

All women who had an obstetric anal sphincter injury were managed according to the protocol in the following way:

1. All repairs were conducted in theatre
2. All repairs were conducted by obstetricians experienced in anal 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 is disrupted were repaired by the end to end technique.
5. When the tears are classified as 3b where more than 50% of the external anal sphincter is disrupted, the external anal sphincter is completely divided and repaired by the overlap technique.
6. The internal sphincter was identified and repaired separately when damaged.
7. The internal and external anal sphincter was 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.

Women completed a validated Manchester questionnaire relating to bowel symptoms before delivery and also a second questionnaire at eight to twelve weeks after repair when patients were followed up in a dedicated one-stop perineal clinic. At follow up all women had anal endosonography and manometry performed.

Results

During a 16 month period 83 obstetric anal sphincter injuries occurred (prevalence 1.6%). Of these 73(88%) were in primigravid women and 30 (36.1%) followed an instrumental delivery. 37 of the 45 (82.2%) with obstetric anal sphincter injury involved >50% external anal sphincter thickness and all had an overlap repair. Six were repaired by consultants and the remainder were repaired at delivery by the duty registrar. There were 11 internal sphincter injuries (3c and 4th degree). 8 (72%) were successfully repaired and were asymptomatic. Three had persistent internal sphincter defects on scan.

The description of tears, symptoms, anal endosonography, manometry are outlined in Tables 1-4.

Table 1: Description of 3rd and 4th degree tears

Not classified / missed	4(4.8%)
3a <50% External anal sphincter involved	34(41.0%)
3b >50% External anal sphincter involved	34(41.0%)
3c Internal anal sphincter involved	5(6.0%)

4 Anal mucosa involved	6(7.2%)
TOTAL	83

Table 2: Anal incontinence symptoms:

	antenatal	Follow-up	
Liquid/solid incontinence	0	0	
Flatus incontinence	8(9.6%)	7(8.4%)	p=0.79
Urgency	6(7.2%)	2(2.4%)	p=0.15

Table 3: Anal endosonography six weeks after repair

Intact sphincter	70(84.3%)
≤ 1 quadrant defect	11(13.3%)
>1 quadrant defect	4(4.8%)

Table 4: Anal manometry(mmHg) six weeks after repair

Resting pressure	3a/3b	51.5(29-95)] p=0.018
	3c/4	43(31-52)	
Squeeze pressure	3a/3b	80.5(20-143)] p=0.008
	3c/4	69.5(45-79)	

There was a significant correlation between resting pressure measurements and defects (p=0.005).

Interpretation of results

This study demonstrates that anal incontinence and residual sphincter defects can be significantly reduced when this protocol is adhered to by trained doctors. In addition with more extensive anal sphincter injury anal manometric pressures are significantly lower. Unlike secondary sphincter repair, his study confirms the benefit of identifying and repairing internal sphincter injury as 72% had no persistent defect and were asymptomatic.

Concluding message

Implementation of this protocol nationally would have a dramatic impact on the prevalence of anal incontinence and consequently improve women's quality of life. All units should carefully audit their own outcomes to establish whether a change of practice is required.

References

1. Third degree obstetric anal sphincter tears: risk factors and outcome of primary repair. BMJ 1994; 308:887-91.
2. Lower genital tract and anal sphincter trauma. Best Practice & Research – Clinical Obstetrics and Gynaecology 2002;16(1):99-116
3. Management of obstetric anal sphincter injury. The Obstetrician and Gynaecologist. 2003; 5(2): 72-78.