

OCCULT ANAL SPHINCTER INJURIES -- MYTH OR REALITY?**Hypothesis / aims of study**

Anal incontinence is a social stigma and because of embarrassment is frequently underreported. A major contributory factor is obstetric trauma with may be either recognised or occult(1). Recognised anal sphincter injuries occur in 0.5 to 19% depending on whether a mediolateral or midline episiotomies is practised. Occult anal sphincter injuries diagnosed by anal endosonography at six to twelve weeks postpartum have been reported in 20 – 41% of primiparous women. However it remains to be established whether these “occult” injuries are truly occult or are missed at the time of delivery.

The aim of this study was to establish the true prevalence of recognised and occult anal sphincter injury at the time of the first vaginal delivery.

Study design, materials and methods

In this prospective study consenting women having their first vaginal delivery had an endoanal ultrasound performed immediately after delivery and at six to twelve weeks postpartum. In addition all women had a perineal and rectal examination at delivery by an experienced clinical research fellow. Any discrepancies on clinical examination were verified by the on call consultant or registrar. The endoanal ultrasound scans were recorded on videos and reported by an expert who was blinded to the study.

Results

254 women having their first vaginal delivery were invited of whom 241 (95%) agreed (8 had a previous caesarean section). Of the 241 women 11 (4.6%) had a forceps delivery, 14 (16.6%) a ventouse delivery and 12(5%) had a combined ventouse and forceps delivery. Mean birthweight 3.4kg (+/- 0.49 SD). 209 (87%) returned for follow up at six to twelve weeks. There were 11 discrepancies on scan reports that were resolved on review.

There were three defects on endoanal ultrasound that were not clinically apparent. All three defects persisted at follow up. Two defects only involved the internal sphincter, and one was a combined sphincter defect. The anal endosonographic findings immediately before repair and 6 to 12 weeks postpartum are outlined in Table 1.

Table 1. Anal endosonography findings in relation to degree of tear

Type of injury	Number of cases (%) n=241	Number with defect on anal endosonography immediately prior to perineal repair (%) n =241	Number with defect on anal endosonography 6 -12 weeks post partum (%) n=209
Intact perineum	29 (12)	1/29 (3.4)	1/24 (4.2)
First degree tear	17 (7.1)	0/17 (0)	0/16 (0)
Second degree tear	136 (56)	2/136 (1.5)	2/111 (1.8)
3a tear (<50% external anal sphincter disrupted)	28 (11.6)	28/28 (100)	0/27 (0)
3b tear (>50% external anal sphincter disrupted)	30 (12.4)	30/30 (100)	6/30 (20)
3c tear (internal anal sphincter involved)	0	0/0 (0)	0/0 (0)
Fourth degree tear (involving the anal mucosa)	1 (0.5)	1 (100)	0/1 (0)
All third/fourth degree tears	59 (24.5)	59/59 (100)	6/58 (10)

Interpretation of results

The true prevalence of recognisable anal sphincter injuries is much higher than previously reported. All clinically recognisable injuries at delivery were demonstrable by anal endosonography.

Three defects were not clinically recognised at delivery. Two of these were isolated internal sphincter defects that would not normally be apparent clinically. The remaining undiagnosed combined defect may have been missed clinically or be truly occult.

No women developed a *de novo* sonographic defect at follow up.

Concluding message

The prevalence of clinically recognisable anal sphincter injury was much higher than previously reported and all injuries were confirmed by postpartum anal endosonography. The prevalence of true occult anal sphincter defects was negligible and no *de novo* anal sphincter defects were identified. This study demonstrates that the previously reported high prevalence of occult anal sphincter injuries (1) were actually missed rather than truly occult. Therefore with better training the clinical diagnosis of anal sphincter injury can be dramatically improved and thereby minimise the morbidity associated with childbirth.

Reference

1. Anal sphincter disruption during vaginal delivery. *New Eng J Med* 1993; **329**: 1905-1911.