

TITLE: ANAL SPHINCTER FUNCTION FOLLOWING INSTRUMENTAL DELIVERY: A PROSPECTIVE STUDY BEFORE AND AFTER FURTHER VAGINAL DELIVERY.**Aims of Study**

Obstetric anal sphincter injury is the single most important risk factor for the development of faecal incontinence in women (1). Among the most significant obstetric risk factors for anal sphincter trauma are first vaginal delivery and instrumental delivery (1,2). Forceps delivery appears to pose a particular risk to the sphincter mechanism. Sultan et al studied 43 primiparous women who had an instrumental delivery and found evidence of sphincter defects on endoanal ultrasound in 81% of patients delivered by forceps compared with 21% of those delivered by ventouse and 36% of controls following spontaneous vaginal delivery (3). While many of these women were asymptomatic, the long-term prognosis of women with such occult anal sphincter injury is unclear. There is a concern that this cohort is at high risk of further injury with successive vaginal deliveries, which may eventually precipitate overt faecal incontinence. The aim of our study was to identify the incidence of sphincter injury in women following forceps delivery and to prospectively determine the effect of another vaginal delivery on anal sphincter function.

Methods

This was a prospective case controlled study. 52 pregnant women whose first baby was delivered by forceps were studied antenatally during their second pregnancy. A control group consisted of 20 women whose first baby was delivered by spontaneous vaginal delivery. Patients were assessed antenatally using a bowel function questionnaire derived from Jorge and Wexner (4), endoanal ultrasound and anal manometry. These tests were repeated at 12 weeks postpartum.

The anal sphincter was visualised using a Bruel and Kjaer 10MHz endoanal ultrasound probe. A consultant radiologist blind to the patient's history reported all scans. Anorectal manometry was performed using a Synectics PC Polygraf System to record mean maximum resting and squeeze anal sphincter pressures.

Results

Antenatally, the median continence score in the forceps group was 0 (mean 0.98, range 0-5). At manometry the median resting pressure was 43mmHg and median squeeze pressure was 71mmHg. 71% of patients had some external anal sphincter defect noted on endoanal ultrasound.

The median continence score in the control group was 0 (range 0-3) and they had a median resting pressure of 60mmHg ($p=0.014$) and median squeeze pressure of 114mmHg ($p=0.004$). These pressures did not deteriorate significantly following second vaginal delivery.

Following subsequent vaginal delivery in the forceps group, 46 patients had a median continence score of 0 ($p=0.745$). The median squeeze pressure was 74mmHg ($p=0.9778$) and median resting pressure was 46mmHg ($p=0.4071$). There was no significant difference in endoanal ultrasound findings postnatally in either the forceps or the control group.

Conclusions

There is a high incidence of occult/asymptomatic anal sphincter injury in women following forceps delivery. Anal manometry pressures were significantly lower in women delivered by forceps with greater evidence of sphincter defect on endoanal ultrasound compared to a control group following spontaneous vaginal delivery. Our results indicate that subsequent vaginal delivery did not lead to a significant deterioration in anal sphincter function in either group.

References

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