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A PROSPECTIVE STUDY OF RISK FACTORS FOR OBSTETRIC ANAL SPHINCTER INJURIES (OASIS) AFTER ACCURATE PERINEAL TRAUMA CLASSIFICATION

Hypothesis / aims of study

Anal incontinence affects 5% of women following a vaginal delivery. It is an embarrassing condition that is largely under-reported due to social stigma and embarrassment. Previously its aetiology was attributed largely to pudendal neuropathy. OASIS are now known to be the major aetiological factor (1). Therefore identification of risk factors may enable modification of obstetric practice to minimise OASIS. Most previous studies however, have been retrospective and none involved prospective and accurate classification of perineal trauma (2). Current obstetric and midwifery textbooks describe mediolateral episiotomies as incisions performed from the posterior fourchette at an angle of at least 40º from the midline. A recent validated pictorial questionnaire has raised concern that doctors and midwives depict mediolateral episiotomies that are not truly mediolateral but more midline (3). We aimed to identify risk factors for OASIS and determine whether a relationship exists between the angle of mediolateral episiotomy and OASIS.

Study design, materials and methods

Women having their first vaginal delivery between February 2003 and January 2004 were recruited and obstetric variables were recorded prospectively. Women were initially examined by their accoucher, and then had a repeat perineal and rectal examination by a trained research fellow who classified tears according to the new accepted classification[2]. The length and depth of the mediolateral episiotomy as well as the shortest distance from the mid anus to caudal end of the episiotomy were measured, and the angle subtended from the sagittal plane was calculated.

Results

254 women were invited and 241(95%) participated. 59 (25%) women sustained OASIS. 30 women with OASIS were delivered by midwives who missed 27 (90%) of these injuries and doctors missed 7 of 29 (24%) deliveries they conducted. Univariate analysis revealed forceps delivery OR 4.03(1.63-9.92), vacuum extraction OR 2.64(1.25–5.54), gestation > 40 weeks OR 3.18(2.35–4.29) and mediolateral episiotomy OR 5.0(2.64–9.44) to be associated with OASIS. In addition OASIS were commoner with greater birth weight (3.51 vs 3.17 Kg, P<0.01), larger head circumference (34.3 vs 33.3 cm, p<0.01) and longer second stage of labour (76 vs 51 mins, P <0.01). Multiple logistic regression revealed higher birth weight and mediolateral episiotomy OR 4.04 (1.71–9.56) as the only independent risk factors. Analysis of risk factors was repeated using the accoucher's diagnosis and the sole independent risk factor identified was forceps delivery OR 6.02 (1.23 – 19.45). Episiotomies angled closer to the midline were significantly associated with OASIS (Table 1)

Table 1. Relationship between episiotomy and OASIS

	Mean (SD) with OASIS n = 41	**Mean (SD) with no OASIS n = 57**	**P value**
Angle of episiotomy^0	26 (13)	37 (16)	0.01
Depth (mm)	55 (18)	59 (20)	0.48
Length (mm)	42 (11)	41 (11)	0.7
Distance from mid anus (mm)	*28 (11)*	*28 (11)*	0.84

Analysis by unpaired student t-test

Interpretation of results

Larger babies and mediolateral episiotomies are independent risk factors for OASIS. Episiotomies angled further away from the midline significantly reduce the risk of OASIS. A large proportion of OASIS were missed by the accoucher especially when deliveries were conducted by midwives, and this may explain why several previous studies identified forceps deliveries as an independent risk factor for OASIS.

Concluding message

As prediction or modification of birth weight is often difficult, more emphasis should be placed on the other modifiable independent risk factor namely mediolateral episiotomy. It has been previously established that a policy of restrictive rather than liberal episiotomy is preferable. Therefore when clinically indicated, care should be exercised to ensure that mediolateral episiotomies are truly mediolateral so as to minimise the risk of OASIS. There is a clear need for doctors and midwives to receive formal structured training in the correct technique of performing a mediolateral episiotomy.

References:
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