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MANAGEMENT OF OBSTETRIC ANAL SPHINCTER INJURIES INVOLVING THE ANORECTAL MUCOSA (FOURTH DEGREE PERINEAL TEARS) – A 10-YEAR EXPERIENCE OF A LOCAL MATERNITY HOSPITAL

Hypothesis / aims of study

Severe perineal tears that involve the anal sphincter complex and/or the anal epithelium are identified in 0.6–9.0% of vaginal deliveries [1]. Most of the risk factors identified cannot readily be used to prevent or predict the occurrence of a third- and fourth-degree tear [2]. The aim of the current study is to identify the rate of occurrence of 4th degree tears in our unit over a 10-year period, to study the impact of the various identified risk factors for obstetric anal sphincter injuries and to benchmark the management and follow up against national standards.

Study design, materials and methods

The study was carried out in a maternity unit with currently 3800 vaginal deliveries per annum and a high instrumental delivery rate of 19% (mostly forceps deliveries). Patients who sustained 4th degree perineal tears (as per classification approved by the International Consultation on Incontinence [3]) over the last 10 years (Jan 2000 - Dec 2009) were identified by the use of electronic databases. Patient records were searched for details including patients' demographics, obstetric data in relation to the known risk factors for development of such perineal trauma as well as for short-term follow up and mode of subsequent delivery.

Results

Twenty-seven patients had sustained 4th degree perineal tears over the last 10 years. This comprises 0.0007% of the total number of vaginal deliveries in the unit. The first half of the study period (2000-2004) saw 6 patients while the second half (2005-2009) saw 21 patients sustaining this type of perineal tears. The mean age was 26 years (19-33 years) and 18 (66.6%) women were primigravidae. Mean gestational age was 40 weeks (38-41 weeks) and the mean BMI was 28 (19-40). Only 7 (26%) women had their labour induced.

Delivery details:

Sixteen had delivered spontaneously and 11 had instrumental deliveries (Table 1). Right 'medio-lateral' episiotomy was performed in 10 (37%) patients (7 during mid-cavity forceps, 1 during vacuum and 2 during spontaneous delivery). Mean birth weight was 3.8 kilograms (2.6-4.7) with no occurrence of shoulder dystocia. The mean length of the second stage was 85 minutes (8-210 min) while the mean length of the *active* pushing phase was 43 minutes (0-210 min). Eleven (41%) patients had an active phase of 0 minutes (no time for pushing).

Table 1 - Mode of delivery	
Spontaneous	16 (59%)
Mid-cavity Forceps	8 (30%)
Low-cavity Forceps	2 (7%)
Vacuum	1 (4%)

Table 2 - Practitioner conducting delivery	
Midwife	16 (59%)
Senior trainee	8 (30%)
Consultant	2 (7%)
Junior trainee	1 (4%)

Table 3 - Practitioner performing repair	
Senior trainee	14 (52%, 8 supervised)
Consultant	13 (48%)

Repair details

All tears were repaired in theatre; 16 under spinal, 10 had an epidural while 1 required general anaesthesia. Seventeen (63%) patients had their repair using the overlapping while 6 (22%) had the end-to-end technique. There was no documentation about the technoque of repair in 4 patients.

Table 4 - Suture material used			
	Vicryl rapide	PDS	Not documented
Rectal mucosa	26	1	-
Internal Anal Sphincter	10	14	3
External Anal Sphincter	5	20	2

Table 5 - Post operative antibiotics and laxatives				
Cefalexin+ Metronidazole	Co-amoxiclav+ Metronidazole	Cefalexin	Co-amoxiclav	No antibiotics documented
15	2	3	5	2

Lactulose+ Fybogel	Lactulose only	Fybogel only	No laxatives documented
12	12	2	1

Follow up

Only 14 (52%) of these patients were seen on postnatal wards by physiotherapists but none were seen for follow up in special physiotherapy clinics. Twenty two (82%) patients were followed up in obstetrics clinic 12 weeks postpartum and, of these, 3 had persistent symptoms of faecal incontinence (2 referred to colorectal surgeons and 1 to specialist physiotherapist). So far, no patient required further surgical intervention. Data on subsequent deliveries were available for 7 patients; 5 delivered by elective Caesarean section and 2 delivered spontaneously with right medio-lateral episiotomy and no recurrent anal sphincter injury.

Interpretation of results

In contrast to 3rd degree tears, the incidence rate of 4th degree tears is more likely to be a true reflection of reality as the latter is difficult to miss. Despite the relatively high instrumental delivery rate and the preference of forceps over vacuum deliveries in our unit, the incidence of 4th degree perineal tears is as low as 7:10,000. To our knowledge, this is the lowest reported rate of occurrence of 4th degree perineal tears in literature to date. The difference in incidence between the first & second half of the study period is probably due to increased preference of forceps to vacuum delivery.

As is the case with 3rd degree tears, previously identified risk factors correlated poorly and may not predict the occurrence of 4th degree tears. This is particularly true with regards the role of episiotomy as it did not prevent extensive perineal tearing in more than a third of our patients.

The follow up could be significantly improved as only half of patients were seen by specialist physiotherapists on the postnatal ward. Referral pathways are now in place and a re-audit will be conducted next year. Documentation needs urgent attention and a mandatory electronic sheet to document repair details has been recently introduced.

Obstetricians who are appropriately trained are more likely to provide a consistent, high standard repair procedures and contribute to reducing morbidity and litigation associated with such injuries. Standardisation of the antibiotics and laxatives regimens and following the local guidelines are necessary for consistent management plans.

Concluding message

Good intra- and post-operative management is important for favourable outcome in patient who sustained obstetric 4th degree perineal tears. Larger audit projects over longer periods of time are required to study the various trends in delivery factors and the effect of staff training.

References

1. Obstet Gynaecol Surv 1983;38:322–38
2. Br J Obstet Gynaecol 2005; 112:1066–9
3. Clin Risk 1999;5:193–6

Specify source of funding or grant	**Local Hospital Funding**
Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require ethics committee approval because	**it is a retrospective review of records**
Was the Declaration of Helsinki followed?	**No**
This study did not follow the Declaration of Helsinki in the sense that	**it is not applicable**
Was informed consent obtained from the patients?	**No**