1061

Siddiqui J[1], Kanwar S[1], Phillips K[1], Duthie G[1]
1. *Castlehill Hospital, Cottingham, East Riding of Yorkshire, UK*

A PROSPECTIVE STUDY - DO ANATOMICAL DEFECTS AFTER IMMEDIATE REPAIR OF OBSTETRIC ANAL SPHINCTER INJURIES CORRELATE WITH URINARY AND BOWEL SYMPTOMS?

Hypothesis / aims of study

The main aim of the study was to correlate anatomical defects on endo-anal ultrasound after primary repair of obstetric anal sphincter injuries with urinary and bowel symptoms. Could the endo-anal ultrasound be of value in planning the mode of the next delivery?

Study design, materials and methods

Women were assessed at three months following the primary repair of third and fourth degree tears between August 2008 and November 2009 in a tertiary obstetric unit.
243 women sustained obstetric sphincter injuries (OASIS) in this time period. They were sent specific bowel and urinary symptom questionnaires and offered physiotherapy and an endo- anal ultrasound.
117 women completed the specific bowel symptoms questionnaire and bowel diary, three months after the repair of the tear. These women were all counselled regarding their symptoms and offered biofeedback by the bowel physiologist. They were all seen by the physiotherapist.
The integrity of the anal sphincter was assessed both digitally and by endo-anal ultrasound. The endo-anal ultrasound was performed by the anal physiologists and interpreted by the colorectal surgeon. Symptomatic women were followed up with anal manometry and seen by the colorectal surgeon.

Results

There were 7470 deliveries in this time period. 5693 were vaginal deliveries, (including instrumental deliveries) of those there were 243 obstetric anal sphincter injuries. In this population, 70% were normal deliveries, 5% forceps, 2% ventouse and 23% caesarean section.
Amongst the obstetric anal sphincter injuries, there was a 23% episiotomy rate, 17% forceps rate and a 2% ventouse rate.
The incidence of OASIS was 3.2% of all deliveries and 4.2% of all vaginal deliveries
117 of the 243 women with OASIS (48%) replied to the questionnaire and attended the endo-anal ultrasound. 7 had fourth degree tear and 110 had third degree tears and 43% were type 3A repairs.
58 women were asymptomatic with no leakage of solid and liquid stool nor leakage of wind. Symptoms of anal incontinence were described in 59 women where (6) 6% of all women with OASIS had solid leakage, (17)15% liquid leakage, and (42) 45% had wind leakage.
Anal Endosonography demonstrated normal anal sphincters in 96 (82%)women, 82% of the study group had intact internal and external anal sphincter and therefore anatomically a successful repair.
A sphincter defect was seen in 21 women (18%). 17 women (15%) had external sphincter defects alone. One woman had an internal sphincter defects alone (0.8%). 3 women had a defect in both the internal and external sphincter(2.5%).

Interpretation of results

Using Chi square test our results show no significant difference between onset of labour, type of delivery, having an episiotomy and having an obstetric anal sphincter tear.
Using a Kruskal Wallis test there is no difference between those with defects on endoanal ultrasound and those without defects and either solid, liquid stool or wind leakage.

Test Statistics[a,b]

	Solid Leakage	Liquid Leakage	Wind Leakage
Chi-Square	.234	2.405	3.305
Defects	3	3	3
Asymp. Sig.	.972	.493	.347

a. Kruskal Wallis Test

b. Grouping Variable: UssDefects

There were no significant differences in any other bowel symptoms but there was statistical significance in the following urinary symptom questions.

Ever leak urine if you cough, sneeze	Ever not make it in time to pass urine	Ever wear pad for any urinary symptoms
P value 0.026	P value 0.028	P value 0.029

Concluding message

A number of women did not attend for the endo-anal ultrasound. The reasons given were 'busy with new baby' and 'no problems'. Potentially, more symptomatic women may have completed the questionnaire and may be a limitation of our study.

Primary surgical treatment and subsequent multi disciplinary management of obstetric anal sphincter injuries is associated with severe bowel leakage symptoms in one in five women, and the development of urinary symptoms was statistically significant in the defect group. It is possible that these women have suffered some considerable pudendal nerve neuropathy. These women may benefit from continuing physiotherapy for up to a year at which point the neuropathy may naturally resolved in a large number of women; the women with continuing symptoms may require intervention.

None of the women at this relatively early stage in this study required a second repair. The development of bowel symptoms does not seem related to sphincter defect on ultrasound.
However caution must be used in interpreting these results, in the short term. A recent study has shown the median age at onset of faecal incontinence in patients with a sphincter defect was 61.5 years vs 68.0 years in those without a sphincter defect. 71% of women with late-onset faecal incontinence after vaginal delivery had an anatomical sphincter defect. Thus, faecal incontinence related to anal sphincter defects is likely to occur even in an elderly population who had experienced vaginal deliveries earlier in life.[1]

In our study, 17% of the obstetric sphincter injuries were delivered by forceps delivery compared to 2% delivered by ventouse. Neither was a statistically significant risk factor for OASIS. Our rates were significantly less than quoted in other studies of obstetric sphincter injuries where forceps rates of up to 63% were found.[2] It may be that previous studies have overstated the risk factor of forceps delivery in obstetric anal sphincter injury.

The endo-anal ultrasound is useful investigation in this group of women as our study shows that the symptomatic women are not necessarily those with the defects. These results can help the clinician when planning the mode of the next delivery. Possibly a caesarean section could be offered to women with a significant but partial defect on endo-anal ultrasound.

References

1. The Association Between Late-Onset Fecal Incontinence and Obstetric Anal Sphincter Defects. Oberwalder, Michael MD; Dinnewitzer, Adam MD; Baig, M. Khurrum MD; Thaler, Klaus MD; Cotman, Kathy BS; Nogueras, Juan J. MD; Weiss, Eric G. MD; Efron, Jonathan MD; Vernava, Anthony M. III MD; Wexner, Steven D. MD
2. Practices regarding diagnosis and management of third and fourth degree perineal tears.Raheela Mohsin Rizvi, Nasreen Chaudhury. JPMA. The Journal of the Pakistan Medical Association. 2008 May;58(5): 244-7

Specify source of funding or grant	**No 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	**This study was auditing the results of a questionnaires and endoanal ultrasound results. These questionairres were anonymous in the notes and the patients have agreed for the data to be used. The raw data is not identifiable in any way. As it just the data from the notes that is analysed, no formal ethics approval was needed.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**