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Date: 14 October 2019
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Recurrence of Perineal Trauma and Episiotomies

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1. The impact of third- or fourth-degree perineal tears on the second pregnancy: A cohort study of 182,445 Scottish women.

Author(s): Woolner, Andrea Mary; Ayansina, Dolapo; Black, Mairead; Bhattacharya, Sohinee

Source: PloS one; 2019; vol. 14 (no. 4); p. e0215180

Publication Date: 2019

Publication Type(s): Journal Article

PubMedID: 30973931

Available at PloS one - from Europe PubMed Central - Open Access

Available at PloS one - from ProQuest (Health Research Premium) - NHS Version

Abstract: This study aimed to investigate the reproductive impact of a third- or fourth-degree tear in primigravid women. A retrospective population-based cohort study was conducted using data from Scottish Morbidity Records (SMR02). Primigravid women with a vaginal birth in Scotland from 1997 until 2010 were included. Exposure was third- or fourth-degree tear in the first pregnancy. The second pregnancy rate, interpregnancy interval and third- or fourth-degree tear in a second pregnancy were the primary outcomes. A nested case-control study was used to determine factors associated with repeat third- or fourth-degree tears in a second vaginal birth. Cox regression analysis and logistic regression were used to look for associations. Initial third- or fourth-degree tear occurred in 2.8% women (5174/182445). The percentage of third- or fourth-degree tears in first vaginal births increased from 1% in 1997 to 4.9% in 2010. There was no difference in having a second pregnancy (adjusted Odds Ratio (aOR) 0.98 (99%CI 0.89-1.09)) or the median interpregnancy interval to second pregnancy (adjusted Hazard Ratio (aHR) 1.01 (99%CI 0.95-1.08)) after an initial third- or fourth-degree tear. Women were over four times more likely to have a repeat injury in a subsequent vaginal birth (n = 149/333, aOR 4.68 (99% 3.52-6.23)) and were significantly more likely to have an elective caesarean section in their second pregnancy (n = 887/3333, 26.6%; 12.75 (11.29-14.40)). Increased maternal age and birthweight ≥4500g were risk factors for repeat injury. Third- and fourth-degree tears are increasing in Scotland. Women do not delay or avoid childbirth after initial third- or fourth-degree tear. However, women are more likely to have a repeat third- or fourth-degree tear or an elective caesarean section in the second pregnancy. Strategies to prevent third- or fourth-degree tears are needed.

Database: Medline

2. Maternal outcomes in subsequent delivery after previous obstetric anal sphincter injury (OASI): a multi-centre retrospective cohort study.

Author(s): D'Souza, Joanna Caroline; Monga, Ash; Tincello, Douglas G; Sultan, Abdul H; Thakar, Ranee; Hillard, Timothy C; Grigsby, Stephanie; Kibria, Ayisha; Jordan, Clare F; Ashmore, Christopher

Source: International urogynecology journal; Jun 2019

Publication Date: Jun 2019

Publication Type(s): Journal Article

PubMedID: 31230097

Abstract:INTRODUCTION AND HYPOTHESIS Women with a history of obstetric anal sphincter injury (OASI) are at increased risk of recurrence (rOASI) at subsequent delivery; however, evidence regarding the factors influencing this risk is limited. Furthermore, little is known about what factors influence the decision to alternatively deliver by elective caesarean section (ELLSCS).METHODS Retrospective univariate and multivariate logistic regression analysis of prospectively collected data from four NHS electronic maternity databases including primiparous women sustaining OASIS during a singleton, term, cephalic, vaginal delivery between 2004 and 2015, who had a subsequent delivery.RESULTS Two thousand two hundred seventy-two women met the criteria; 10.2% delivering vaginally had a repeat OASI and 59.4% had a second-degree tear. Women having an ELLSCS were more likely to be Caucasian, older, have previously had an operative vaginal delivery (OVD) and have a more severe degree of OASI. Positive predictors for rOASI were increased birth weight and maternal age at both index and subsequent deliveries, a more severe degree of initial OASI and Asian ethnicity. The overall mediolateral episiotomy (MLE) rate was 15.6%; 77.2% of those who had an episiotomy sustained no spontaneous perineal trauma. Only 4.4% of women with a rOASI had an MLE, whilst the MLE rate was 16.9% in those without a recurrence (p 4 kg increased the risk 2.5 fold.CONCLUSIONS Women with previous OASIS are at an increased risk of recurrence. A more liberal use of MLE during subsequent vaginal delivery could significantly reduce the risk of recurrence.

Database: Medline

3. Perineal trauma in subsequent delivery after previous obstetric anal sphincter injury: A multi-centre study

Author(s): D'Souza J.; Monga A.; Tincello D.

Source: International Urogynecology Journal; Aug 2018; vol. 29

Publication Date: Aug 2018

Publication Type(s): Conference Abstract

Available at International Urogynecology Journal - from SpringerLink - Medicine

Available at International Urogynecology Journal - from ProQuest (Health Research Premium) - NHS Version

Abstract: Introduction and hypothesis: Obstetric anal sphincter injuries (OASIS) result in significant morbidity and are a contributing factor for anal incontinence and faecal urgency. Evidence for risk of recurrence is limited. We aimto investigate whether there are key factors influencing the risk of recurrence of OASIS. Method(s): Univariate and multivariate logistic regression analysis of prospectively collected data from electronic maternity databases. Data included all primiparous women sustaining OASIS during a singleton, term, cephalic, vaginal delivery that had a subsequent delivery, from four hospitals between 2004 and 2015. Result(s): A total of 2272 women met the criteria, of whom 10.2% of those delivering vaginally had a repeat OASI. 59.4% had a second degree tear. Positive predictors for recurrent injury were increased birthweight and maternal age at both index and subsequent deliveries, a more severe degree of initial OASI and Asian ethnicity. The overall mediolateral episiotomy (MLE) rate was 15.6%; 77.2% of those having episiotomy had in no spontaneous perineal trauma. Only 4.4% of women with recurrent OASIS had a MLE, whilst the MLE rate was 16.9% in those without a recurrence ($p<0.001$). MLE at subsequent delivery decreased the risk of recurrent injury by 80%. Birthweight greater than 4Kg increased the risk by 2.5-times. Women having an elective caesarean section were more likely to be Caucasian, older, have previously had an operative vaginal delivery and a more severe degree of OASI. Conclusion(s): Women with previous OASIS are at an increased risk of recurrence. Recommendation for more liberal use of MLE in Obstetric practice could decrease the risk of recurrence.

Database: EMBASE

4. The effect of a mediolateral episiotomy on the recurrence of obstetrical anal spincter injury(OASI): An analysis of a national registry

Author(s): Van Bavel J.; Ravelli A.; Abu-Hanna A.; Mol B.; Roovers J.; De Leeuw J.

Source: International Urogynecology Journal; Aug 2018; vol. 29

Publication Date: Aug 2018

Publication Type(s): Conference Abstract

Available at International Urogynecology Journal - from SpringerLink - Medicine

Available at International Urogynecology Journal - from ProQuest (Health Research Premium) - NHS Version

Abstract: Introduction: Women with obstetrical anal sphincter injury (OASI) in the first delivery have an increased risk for the recurrence of OASI (rOASI) in their second delivery and an increased risk of faecal incontinence in later life.1 A recent meta-analysis identified several risk factors for rOASI but was unable to address the role of mediolateral episiotomy (MLE) in the possible prevention of rOASI.2 Objective: To assess the effect of a MLE on the risk for rOASI in women who sustained an OASI in their first delivery. Method(s): We performed a cohort study using data from the Netherlands Perinatal Registry (www. perined.nl), containing information on almost all deliveries in the Netherlands from 2000-2009. A longitudinal probabilistic linkage procedure was performed to create a cohort with complete data on first and second deliveries of the same mother. Details of this linkage procedure were described earlier.3 We studied 391 026 women with a first and second delivery. After exclusion for multiple gestation, preterm delivery (<37 weeks), stillborn pregnancy, non-cephalic position and a caesarean section in the 1st or 2nd delivery, 259 662 women were identified in the database. OASI occurred in 9941women in their first delivery and these women were included in the analysis. The primary outcome was rOASI and the effect of a MLE on rOASI in all women, and separately analysed in women with a spontaneous vaginal delivery (SVD) and in women with an operative vaginal delivery (OVD). Univariate analysis was performed with the Student t test and chisquare test, as appropriate, to compare baseline characteristics. Multivariate logistic regression analysis was performed to control for possible confounding risk factors known from the literature. Result(s): The rOASI rate in this cohort was 5.8%, compared to an OASI rate of 3.8% in their first delivery. Univariate analysis showed that post term pregnancy and birthweight over 4000 grams significantly increased the risk of rOASI, whereas low socio-economic status and the use of MLE were associated with an significant lower risk for rOASI. After multivariate analysis including all 9941 women, MLE appeared to be associated with a significantly lower risk for rOASI (OR 0.35, 95% CI: 0.29 - 0.44). Separate multivariate analysis of 9707 women with SVD showed that MLE was able to lower the risk for rOASI significantly, with an odds-ratio of 0,36 (95% CI: 0.30 - 0.45). The rate of rOASI dropped from 7.6% to 3.1%. The calculated number of MLE needed to prevent one rOASI in these women was 22. In 234 women with OVD the protective effect of MLE was even more pronounced with an odds ratio of 0.17 (95% CI: 0.05 - 0.53). In these women the rate of rOASI was 14.8% without and 2.8% with the use of MLE. The number of MLE to prevent one rOASI during OVD was 8. Conclusion(s): Mediolateral episiotomy is an independent protective intervention for the recurrence of OASI, especially in women delivered with an OVD.

Database: EMBASE

5. Obstetrical anal sphincter injuries and symptoms after subsequent deliveries: A 60 patient study.

Author(s): Fradet-Menard, Carine; Deparis, Julia; Gachon, Bertrand; Sichitiu, Joanna; Pierre, Fabrice; Fritel, Xavier; Desseauve, David

Source: European journal of obstetrics, gynecology, and reproductive biology; Jul 2018; vol. 226 ; p. 40-46

Publication Date: Jul 2018

Publication Type(s): Journal Article

PubMedID: 29804027

Abstract:INTRODUCTIONMore than half of women with a history of prior obstetric anal sphincter injuries (OASIS) will have another pregnancy. Currently, little is known concerning post-partum perineal symptoms in cases of a subsequent vaginal delivery. The aim of this study was to assess the frequency of perineal functional symptoms following a vaginal delivery after OASIS while comparing them to patients who did not have a subsequent delivery.MATERIAL AND METHODRetrospective cohort study between January 2000 and December 2011. A questionnaire was sent by post to all women who sustained an OASIS at the Poitiers University Hospital, France. Perineal functional symptoms and quality of life were assessed using validated self-administered questionnaires: Female Pelvic Floor Questionnaire, Pescatori anal incontinence score, EuroQoL five-dimension score, and pain visual analogue scale.RESULTS159 women of 237 contacted (67%) responded to the questionnaire, on average 46 months after the delivery complicated with OASIS. 135 (85%) of women had a 3rd degree laceration and 24% a 4th degree laceration. 99 women (63%) did not have an ensuing delivery since the event (OASIS - No Subsequent Delivery: SD-). 60 women (37%) had a subsequent delivery (OASIS -Subsequent Delivery: SD +), with 53 (88%) having a vaginal birth. Among these women, 3 (6%) experienced a recurrent OASIS. The mean score for perineal symptoms (FPFQ) was 6.95 in the OASIS-SD (-) group and 7.40 in the OASIS-SD (+) group (p = 0.64). No significant difference in quality of life (EuroQol 5D) was found between the two groups (p = 0.91).CONCLUSION We did not observe a deterioration of perineal functional symptomatology after vaginal delivery in women with known prior OASIS, compared to women who did not have a subsequent delivery. Even if the risk of occurrence of these lesions is higher in women with history of previous OASIS compared to those without perineal injury, it is still comparable to incidence among primiparous women.

Database: Medline

6. Once episiotomy, always episiotomy?

Author(s): Zilberman, Ayala; Sheiner, Eyal; Barrett, Orit; Hamou, Batel; Silberstein, Tali

Source: Archives of gynecology and obstetrics; Jul 2018; vol. 298 (no. 1); p. 121-124

Publication Date: Jul 2018

Publication Type(s): Journal Article

PubMedID: 29785549

Abstract:OBJECTIVETo investigate the association between episiotomy and perineal damage in the subsequent delivery.STUDY DESIGNA retrospective cohort study was conducted, comparing outcome of subsequent singleton deliveries of women with and without episiotomy in their first (index) delivery. Deliveries occurred between the years 1991-2015 in a tertiary medical center. Traumatic vaginal tears, multiple pregnancies, and cesarean deliveries (CD) in the index pregnancy were excluded from the analysis. Multiple logistic regression models were used to control for confounders.RESULTSDuring the study period, 43,066 women met the inclusion criteria; of them, 50.4% (n = 21,711) had subsequent delivery after episiotomy and 49.6% (n = 21,355) had subsequent delivery without episiotomy in the index pregnancy. Patients with episiotomy in the index birth higher rates of subsequent episiotomy (17.5 vs. 3.1%; P < 0.001; OR 1.9; 95% CI). In addition, the rates of the first and second degree perineal tears as well as the third and fourth degree perineal tears were significantly higher in patients following episiotomy (33.6 vs. 17.8%; P < 0.001, and 0.2 vs. 0.1%; P = 0.002, respectively). Nevertheless, there was no significant difference at the rates of CD and instrumental deliveries, between the groups. While adjusting for maternal age, ethnicity, birth weight, and vacuum delivery-the previous episiotomy was noted as an independent risk factor for recurrent episiotomy in the subsequent delivery (adjusted OR 6.7; 95% CI 6.2-7.3, P < 0.001). The results remained significant for term (adjusted OR 6.8; 95% CI 6.2-7.4, P < 0.001) as well as preterm deliveries (adjusted OR 4.5; 95% CI 3.3-6.3, P < 0.001) in two different models.CONCLUSIONEpisiotomy is an independent risk factor for recurrent episiotomy in the subsequent delivery.

Database: Medline

7. Incidence and recurrence of obstetric anal sphincter injury (OASIS)

Author(s): Viner A.; Narrainen Poulle T.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Nov 2017; vol. 124 ; p. 11

Publication Date: Nov 2017

Publication Type(s): Conference Abstract

Available at BJOG: An International Journal of Obstetrics and Gynaecology - from Wiley Online Library

Available at BJOG: An International Journal of Obstetrics and Gynaecology - from Unpaywall

Abstract: Introduction We aim to identify the incidence and recurrence of obstetric anal sphincter injury (OASIS) within a stable population and to evaluate counselling regarding mode of delivery in subsequent pregnancies. OASIS refers to 3rd and 4th degree perineal tears. The UK incidence is approximately 2.9% of all vaginal deliveries, with recurrence quoted as 5-7%. If symptomatic prior to recurrence, there is a 17% chance of worsening rectal symptoms which is important for counselling. Methods We performed a retrospective review of the birth record to identify all women who had delivered at the Borders General Hospital from January 2004 to July 2006 and those suffering an OASIS. We reviewed their notes to establish the type of tear, details of repair and follow-up. We also identified those who had a subsequent pregnancy and the details of their antenatal counselling and delivery, allowing us to calculate our recurrence rate. Results We calculated our incidence of OASIS to be 1.2% (23), with 65% (15) of these women having a subsequent pregnancy. Of them, 60% (9) were seen antenatally for discussion regarding mode of delivery, with 80% (12) opting for a vaginal delivery. There was an overall recurrence rate of 25% (4). Conclusion Whilst the overall incidence of OASIS within our unit was in keeping with national figures, the recurrence rate was significantly higher. Given our limited numbers however, this should be interpreted with caution, but it does provide local data to assist with counselling. Whilst only 60% of those affected attended for antenatal review in subsequent pregnancies, updated referral criteria for consultant review mean that figure is likely to have increased. Although the majority of women who have experienced an OASIS have uncomplicated vaginal deliveries thereafter, the potential for recurrence and worsening symptoms exists, with OASIS continuing to be a significant cause of litigation within obstetric practice.

Database: EMBASE

8. The incidence of and risk factors for a repeat obstetric anal sphincter injury (OASIS) in the vaginal birth subsequent to a first episode of OASIS: a hospital-based cohort study.

Author(s): Antonakou, Angeliki; Papoutsis, Dimitrios; Henderson, Karen; Qadri, Zahid; Tapp, Andrew

Source: Archives of gynecology and obstetrics; May 2017; vol. 295 (no. 5); p. 1201-1209

Publication Date: May 2017

Publication Type(s): Journal Article

PubMedID: 28342158

Abstract:PURPOSETo identify the incidence of and risk factors for a repeat obstetric anal sphincter injury (OASIS) in women who sustained an OASIS in their first vaginal delivery and have a subsequent vaginal birth.METHODSData were collected retrospectively for women having had singleton cephalic presentation vaginal deliveries between 2007 and 2015. Women with breech deliveries, stillbirths, foetal congenital abnormalities and multiple pregnancies were excluded.RESULTSOver the study period, we identified 11,191 women who had a first vaginal birth, of which 603 (5.4%) sustained a first episode of OASIS. Of these women, 243 (40.2%) had a subsequent pregnancy with 190 (78.1%) having a second vaginal birth, 13 (5.4%) an emergency caesarean section (CS) delivery while in labour and 40 (16.5%) an elective CS delivery. In those who delivered vaginally, 16 (8.4%) women had a repeat OASIS. After adjusting for several confounding factors, it was found that the risk of a repeat OASIS was associated with the use of epidural analgesia (OR = 3.66; 95% CI: 1.14-11.71) and an episiotomy in the first delivery (OR = 3.93; 95% CI:1. 03-15.02) and a short labour (<2.8 h) in the second delivery (OR = 14.55; 95% CI: 1.83-115.75). The time interval between the two vaginal births was not associated with any increased risk of a repeat OASIS.CONCLUSIONWe found that 8.4% of women sustained a repeat OASIS in a subsequent vaginal birth with this risk being associated with the presence of a short second labour and certain features from the first labour.

Database: Medline

9. A re-audit of the recurrence rate of obstetric anal sphincter injuries at St. Michael's Hospital, University Hospitals Bristol NHS Foundation Trust

Author(s): De Souza C.; Taylor J.; Basude S.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Mar 2017; vol. 124 ; p. 119

Publication Date: Mar 2017

Publication Type(s): Conference Abstract

Available at BJOG: An International Journal of Obstetrics and Gynaecology - from Wiley Online Library

Abstract: Introduction Obstetric anal sphincter injury (OASI) is a wellreported complication of vaginal delivery, but the rate of recurrence is inconsistent in the literature and few studies have identified predictive factors for recurrent OASIs. Improved knowledge would aid antenatal counselling and decision-making about the mode of delivery where there is a history of an OASI. We aim to measure the OASI recurrence rate and compare it with the current national and local rates. Outcomes of the subsequent pregnancies of women with a history of an OASI will also be assessed to identify possible predictive factors for perineal trauma. Methods Data were collected from a maternity database for all women diagnosed with an OASI in their first pregnancy, who went on to have a subsequent pregnancy at St Michael's Hospital between April 2012 and June 2016. Data were limited to term, singleton, cephalic, vaginal deliveries in the first subsequent pregnancy. Results A total of 109 deliveries were assessed, of which 67 met the final criteria. Five women (7.5%) sustained a further OASI. When identifying predictive factors for recurrent OASIs, large-forgestational- age neonates were associated with a potentially increased risk, whereas the use of episiotomy may reduce the risk. The severity of the primary OASI had no effect on the severity of the subsequent perineal trauma. No association was identified between recurrent OASIs and maternal ethnicity, shoulder dystocia or mode of vaginal delivery. Conclusion The recurrence rate of OASIs was comparable to the national rate and had decreased in comparison to the previous local audit. Predicting women at risk of recurrent OASI remains a challenge, but the results of this audit may be used to inform discussions about mode of delivery in subsequent pregnancies. Future research is needed to assess whether pelvic floor symptom profiles and endoanal ultrasonography may be used as predictive factors for sustaining recurrent OASIs.

Database: EMBASE

10. Predicting obstetric anal sphincter injuries in a modern obstetric population.

Author(s): Meister, Melanie R L; Cahill, Alison G; Conner, Shayna N; Woolfolk, Candice L; Lowder, Jerry L

Source: American journal of obstetrics and gynecology; Sep 2016; vol. 215 (no. 3); p. 310

Publication Date: Sep 2016

Publication Type(s): Journal Article

PubMedID: 26902989

Abstract:BACKGROUNDPerineal lacerations are common at the time of vaginal delivery and may predispose patients to long-term pelvic floor disorders, such as urinary incontinence and pelvic organ prolapse. Obstetric anal sphincter injuries, which are the most severe form of perineal lacerations, result in disruption of the anal sphincter and, in some cases, the rectal mucosa during vaginal delivery. Long-term morbidity, including pain, pelvic floor disorders, fecal incontinence, and predisposition to recurrent injury at subsequent delivery may result. Despite several studies that have reported risk factors for obstetric anal sphincter injuries, no accurate risk prediction models have been developed.OBJECTIVEThe purpose of this study was to identify risk factors and develop prediction models for perineal lacerations and obstetric anal sphincter injuries.STUDY DESIGNThis was a nested case control study within a retrospective cohort of consecutive term vaginal deliveries at 1 tertiary care facility from 2004-2008. Cases were patients with any perineal laceration that had been sustained during vaginal delivery; control subjects had no lacerations of any severity. Secondary analyses investigated obstetric anal sphincter injury (3rd- to 4(th)-degree laceration) vs no obstetric anal sphincter injury (0 to 2(nd)-degree laceration). Baseline characteristics were compared between groups with the use of the chi-square and Student t test. Adjusted odds ratios and 95% confidence intervals were calculated with the use of multivariable logistic regression. Prediction models were created and model performance was estimated with receiver-operator characteristic curve analysis. Receiver-operator characteristic curves were validated internally with the use of the bootstrap method to correct for bias within the model.RESULTSOf the 5569 term vaginal deliveries that were recorded during the study period, complete laceration data were available in 5524 deliveries. There were 3382 perineal lacerations and 249 (4.5%) obstetric anal sphincter injuries. After adjusted analysis, significant predictors for laceration included nulliparity, non-black race, longer second stage, nonsmoking status, higher infant birthweight, and operative delivery. Private health insurance, labor induction, pushing duration, and regional anesthesia were not statistically significant in adjusted analyses. Significant risk factors for obstetric anal sphincter injury were similar to predictors for any laceration; nulliparity and operative vaginal delivery had the highest predictive value. Area under the curve for the predictive ability of the models was 0.70 for overall perineal laceration, and 0.83 for obstetric anal sphincter injury. When limited to primiparous patients, 1996 term vaginal deliveries were recorded. One hundred ninety-two women sustained an obstetric anal sphincter injury; 1796 women did not. After adjusted analysis, significant predictors for laceration included non-black race, age, obesity, and nonsmoking status. In secondary analyses, significant predictors for obstetric anal sphincter injury included non-black race, nonsmoking status, longer duration of pushing, operative vaginal delivery, and infant birthweight. Area under the curve for the predictive ability of the models was 0.60 for any laceration and 0.77 for obstetric anal sphincter injury.CONCLUSIONSSignificant risk factors for sustaining any laceration and obstetric anal sphincter injury during vaginal deliveries were identified. These results will help identify clinically at-risk patients and assist providers in counseling patients about modifications to decrease these risks.

Database: Medline

11. The impact of previous pregnancy on obstetric anal sphincter injuries in subsequent birth

Author(s): Thorne E.P.C.; McNab J.R.W.; Doumouchtsis S.K.

Source: Neurourology and Urodynamics; Aug 2016; vol. 35

Publication Date: Aug 2016

Publication Type(s): Conference Abstract

Available at Neurourology and Urodynamics - from Wiley Online Library

Abstract: Hypothesis / aims of study To evaluate the relationship between prior mode of delivery and incidence of obstetric anal sphincter injuries (OASIs). Study design, materials and methods OASIs can have both physical and psychological effects on women. It is therefore important to be aware of potential risk factors. This study aims to evaluate the impact previous pregnancy and labour has on the perineum, specifically third- or fourth-degree perineal trauma, in subsequent vaginal delivery. This 16 year retrospective study looks into first and second pregnancies from 1999 to 2015. Data were extracted from 74,184 maternity records and logged in a database. Women included in the study are those who had not previously suffered perineal trauma and had varying antenatal and intrapartum exposure. There are four groups of women in this study. 1) Those who have had a vaginal delivery (VD) after a previously failed operative vaginal delivery (FOVD) with resultant emergency caesarean section at second stage of labour (n = 52). These women have previously experienced the effects of both pregnancy and labour up to second stage, including active pushing on the perineum resulting in stretching and swelling of the perineum before caesarean section (CS). 2) Those having their second child vaginally having had a prior elective caesarean section (ELCS) (n = 139). These women have experienced the effects of pregnancy, including the increased intra-abdominal pressure on the pelvic floor but not the effects of labour. 3) Those having a second VD (n = 1554) who maintained an intact perineum during their first VD. These women have experienced previous pregnancy, labour and vaginal delivery. These three groups were compared to the fourth control group. 4) Primiparous women (n = 19,790) having their first child vaginally. These have had no other effect on the perineum apart from their current first pregnancy. Alongside these previous modes of birth, recognised risk factors for OASIs have been incorporated into the analysis. Univariate regression analysis has been used to determine if these factors were statistically significant for third- or fourth-degree perineal trauma. A multivariate regression analysis of the previous modes of delivery has then been carried out, controlling for all identified statistically significant co-variables, to isolate the actual effect of previous mode of delivery. The risk factors analysed were: maternal age; maternal ethnicity; maternal body mass index; birth weight; epidural use; intervention (forceps, ventouse, failed ventouse to forceps) and fetus sex. Results Women sustaining OASIs was n = 1,229. The incidence of OASIs in women undergoing first VD was 17.3% after prior FOVD and 12.6% after prior ELCS. In women undergoing second VD (after prior VD maintaining an intact perineum) the incidence was 0.6%. The incidence of OASIs in the control primiparous group was 6%. Multivariate regression analysis demonstrates prior FOVD to be statistically significant with a 2.8-fold increase risk of OASIS (odds ratio (OR): 2.795; 95% confidence interval (CI): 1.351-5.782; p-value = 0.006) and prior ELCS having a 2.1-fold increase (OR: 2.106; 95% CI: 1.273-3.484; p-value = 0.004). Prior VD maintaining an intact perineum was discovered to be protective (OR: 0.087; 95% CI: 0.045-0.168; p-value <0.001), when compared to the primiparous control group of women. Interpretation of results This study identified that women having first VD after CS have a significantly increased risk of OASI than the primiparous control group. Furthermore, a higher risk of OASIs was found in the women undergoing VD when their previous CS was a result of FOVD rather than as an ELCS. This study proposes that prior pregnancy and labour, including the stretching and swelling of the perineal anatomy in the active second stage, but not going on to complete the birth by VD, may have a negative effect on the perineum for a future vaginal birth when compared with an ELCS. Furthermore, the prior FOVD group may have a predisposition to fetopelvic disproportion which may have led to a FOVD at the first birth and have also contributed to an increased risk of OASIs in the subsequent birth. There is limited evidence whether prior uterine

scar has significant influence on maternal outcomes. However, from the results of this study a relationship is shown. During CS, the uterus is incised and then sutured after delivery of the fetus. This results in uterine muscle stretching and scarring which interrupts the uterine muscle fibres. It is recognized in the literature that fibrotic scarring alters the muscle mechanic, reducing the contractile capability of the muscle and, therefore, the strength of the contraction compared to non-damaged muscle [1]. It has also previously been found that if 50-60% stretch-strain is placed on a muscle, it can completely eliminate force production [2]. This study proposes that we can apply this principle to uterine muscle and that this may have an effect on subsequent pregnancies, after CS, on the physiological process of labour. There may be an alteration of muscle contractility which would affect the movement of fetus through the uterus and birthing canal, altering the common descent a fetus takes. It follows that this altered descent and fetal presentation may be a reason for increased risk of OASIs. A further finding of this study is that women who had previously delivered vaginally with no perineal trauma are protected against OASI in a second VD compared to primiparous women. Concluding message Due to the physical and psychological implications of perineal trauma, this study recommends that the statistically significant impact of a previous abdominal delivery on the risk of obstetric anal sphincter injuries should be incorporated into the counseling of expectant mothers considering an elective caesarean section for their first birth and for women considering a vaginal birth after caesarean section. The findings of this study may also be important for future research into OASIs and in creating predictive models. (Table Presented).

Database: EMBASE

12. The incidence of and risk factors for a repeat obstetrical anal sphincter injury (OASIS) in the vaginal birth subsequent to a first episode of OASIS

Author(s): Papoutsis D.; Henderson K.; Tapp A.; Qadri Z.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Jun 2016; vol. 123 ; p. 52

Publication Date: Jun 2016

Publication Type(s): Conference Abstract

Available at BJOG: An International Journal of Obstetrics and Gynaecology - from Wiley Online Library

Abstract: Objective The aim of our study was to identify the incidence of and the risk factors for a repeat OASIS in the subsequent vaginal birth of a cohort of primiparous women who sustained an OASIS in their first vaginal delivery. Methods Retrospective collection of data from the obstetric database of our hospital for women having had singleton cephalic presentation vaginal deliveries between 2007 and 2015. Results We identified 603 primiparous women who sustained a first episode of OASIS in their first vaginal delivery (3a tear: 43%, 3b tear: 38.6%, 3c tear: 13.1%, 4th degree tear: 5.3%). This represents an incidence of first OASIS in the population of primiparous women delivering over the same time period of 5.4% (603/11 191). In the subgroup of women with a first episode of OASIS, the mean age was 27.8 years (SD = 5.7), 30.8% had an induction of labour and 38% had an instrumental delivery. Of this initial cohort of women, 243 (40.2%) had a subsequent pregnancy. In this subgroup, 190 (78.1%) had a vaginal delivery, 13 (5.4%) had an emergency CS delivery while in labour and 40 (16.5%) had an elective CS delivery. In those that delivered vaginally, 16 women had a repeat OASIS thus representing an incidence of 8.4%. After adjusting for several confounding factors, it was found in multivariable analysis that risk factors independently associated with the risk of a repeat OASIS were the use of epidural analgesia and an episiotomy in the first delivery, and a short labour (<3 h) in the second delivery. The time interval between the two vaginal births was not associated with any increased risk of a repeat OASIS. Conclusion We have found that 8.4% of women sustained a repeat OASIS in a subsequent vaginal birth with this risk being associated with the presence of a short second labour and certain features from the first labour.

Database: EMBASE

13. Risk factors for recurrent obstetric anal sphincter injury (rOASI): a systematic review and meta-analysis

Author(s): Jha S.; Parker V.

Source: International Urogynecology Journal; Jun 2016; vol. 27 (no. 6); p. 849-857

Publication Date: Jun 2016

Publication Type(s): Review

PubMedID: 26676912

Abstract: Objectives: The objective of this study was to estimate the risk of recurrent obstetric anal sphincter injury (rOASI) in women who have suffered anal sphincter injury in their previous pregnancy and analyse risk factors for recurrence through a systematic review and meta-analysis. Data sources: A review was performed according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Searches were made in Ovid MEDLINE (1996 to May 2015), PubMed, EMBASE and Google Scholar, including bibliographies and conference proceedings. Methods of study selection: Observational studies (cohort/case-control) evaluating rOASI and risk factors were selected by two reviewers who also analysed methodological quality of those studies. Pooled odds ratios (OR) for rOASI and individual risk factors were calculated using RevMan 5.3. Tabulation, integration and results: From the eight studies assessed, overall risk of rOASI was 6.3 % compared with a 5.7 % risk of OASI in the first pregnancy. The risk in parous women with no previous OASI was 1.5 %. Factors that increased the risk in a future pregnancy were instrumental delivery with forceps [OR 3.12, 95 % confidence interval (CI) 2.42-4.01) or ventouse (OR 2.44, 95 % CI 1.83-3.25), previous fourth-degree tear (OR 1.7, 95 % CI 1.24-2.36) and birth weight >=4 kg (OR 2.29, 95 % CI 2.06-2.54). Maternal age >=35 years marginally increased the risk (OR 1.16, 95 % CI 1-1.35). Conclusion: The overall rate of rOASI and associated risk factors for recurrence are similar to the rate and risk factors of primary OASI. Antenatal decisions could be based on assessment of foetal weight and intrapartum decisions based upon the requirement for an instrumental delivery.

Database: EMBASE

14. Outcome of subsequent delivery in women with previous obstetric anal sphincter injury (OASIS)

Author(s): Thiel M.; Behrens R.

Source: International Urogynecology Journal and Pelvic Floor Dysfunction; Jun 2015; vol. 26 (no. 1)

Publication Date: Jun 2015

Publication Type(s): Conference Abstract

Abstract: Introduction: Vaginal delivery in the UK is associated with a 2.9 % risk of obstetric anal sphincter injury (OASIS) 1. The risk is considerably higher in primiparous women (4.9 % 1) who are likely to have further pregnancies. Mode of delivery is routinely discussed in subsequent pregnancies and dependent on symptoms and investigation findings an elective caesarean section may be appropriate. Published recurrence rates vary greatly, between 3.2 % 2 and 11.9 % 3. There are no clear UK guidelines with respect to delivery following OASIS, so advising women about the risks of subsequent vaginal birth can be difficult. Objective: To investigate current practice with respect to follow up, counselling, mode of delivery and rates of perineal trauma, particularly further OASIS in subsequent vaginal deliveries of women who have previously sustained an OASIS. Methods: A retrospective clinical review of practice was undertaken. 101 patients were identified as having sustained an OASIS from coding (codes 070.2 3rd degree tear, 070.3 4th degree tear) between January 2007 and December 2009, with a subsequent pregnancy and delivery in our unit. 5 patients had been miscoded, of the remaining 96 patients, 23 sets of notes were unavailable. Maternity, gynaecological and computer held records of 73 patients were reviewed. The index injury, follow up and antenatal counselling in subsequent pregnancies and degree of perineal injury in subsequent vaginal delivery was reviewed. Results were analysed on an 'intention to treat' basis. Results: Of the 73 patient who sustained an OASIS in their index pregnancy 42 (58 %) patients had normal vaginal delivery (NVD), 31 (42 %) had an instrumental delivery 22 (30 %) forceps and 9 (12 %) ventouse). 2 (2.7 %) patients had a documented shoulder dystocia. 31 (42 %) patients sustained a 3A tear, 25 (34%) a 3B, 7 (10%) 3Cand 6 (8%) a 4th degree tear. In 4 (5%) the OASIS was unclassified. 80.8%of patients were followed up within 3 months, and 20.3 % had continuing symptoms (pain, faecal or flatal incontinence or urgency). In subsequent pregnancy 70 (95.8 %) patients were referred, 69 seen in clinic. 7 (10.1%) symptomatic (all symptoms) and mode of delivery (MoD) discussed with 65 (94.2 %) patients. 68%(50/73) women were aiming for NVD. 47/49 (95.9%) had NVD(1 set of labour notes were missing). 4/47 (8.5%) sustained a subsequent OASIS, this included no patients with initial 3A tear. 2/13 (15.4 %) patients with an initial 3B tear sustained a 3A and 2/7 (28.6 %) with an intial 3C sustained a 3B tear. Conclusions: From the analysis of the data available, women in our unit with a previous OASIS have an 8.5 % risk of sustaining a subsequent sphincter injury. No recurrent OASIS injuries were seen in women with an initial 3A tear. Risks and severity of OASIS injury appear to increase with increased severity of initial insult. Elective caesarean section in subsequent pregnancy is not wholly protective against developing symptoms. This audit is limited by patient numbers, further notes have been requested to include all patients from 01 January 2007 to 31 December 2013 who have had a subsequent delivery and we anticipate higher numbers by the time of presentation.

Database: EMBASE

15. Does maternal age at subsequent pregnancy, maternal weight and birth weight of baby impact on risk of subsequent severe perineal tears following third and fourth degree perineal tears in first pregnancy?

Author(s): Park Y.; Vatsayan A.; Nguyen N.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Apr 2015; vol. 122 ; p. 392-393

Publication Date: Apr 2015

Publication Type(s): Conference Abstract

Available at BJOG: An International Journal of Obstetrics and Gynaecology - from Wiley Online Library

Abstract: Introduction The risk of subsequent obstetric anal sphincter injuries after hird and fourth degree perineal tears (34DPT) from previous pregnancy is contentious. This study aimed to assess the incidence of a repeat 34DPT in women who chose a subsequent vaginal birth and analyse the impact of anthropometric factors for a repeat 34DPT in subsequent pregnancy. Methods Data were retrieved from Hornsby Ku-Ring- Gai hospital between 2007-2013, including 2502 women who had live birth at term via normal vaginal delivery (NVD), of which 196 had 34DPT. Data analysis was based on who had 34DPT. Anthropometric data included age of mother at first and subsequent pregnancy, body weight, height, birth weight of the baby. The incidence of perineal tears was ascertained. Continuous data were expressed as mean (SD) and were tested by Student's ttest. Categorical data were expressed as number (percentage) and were tested by Chi-square. The differences of factors between LSCS and normal NVD groups were expressed as odds-ratio (OR) with 95% confident interval (95% CI) by using Logistic regression analysis. The significance level was set at $P < 0.05$. Results The incidence for 34DPT was 7.8% (95% CI: 6.8-9.0%). Among women who had previous 34DPT, 56 had subsequent pregnancy, of which, 17 (30.4%) chose elective LSCS and 39 (60.4%) NVD. Majority (37, 94.9%) of previous 34DPT had minimal tears (3 no tear, 5 with 1st degree and 29 with 2nd degree tears), only two deliveries with 3rd degree tears. There was no differences between birth weights of previous and subsequent deliveries (3518 g versus 3572 g, P-value = 0.3541). The average age (years) and BMI of mothers was 32.0 (3.6) and 23.4 (3.8), respectively for LSCS group; and 31.5 (3.8) and 22.9 (3.4), respectively for NVD group. There were no statistically significant difference between LSCS and NVD group among subsequent deliveries in terms of mothers' age (OR = 0.99, 95%CI: 0.96-1.03, P = 0.6733), mothers' height (0.99, 0.97-1.01, P = 0.44), BMI (0.99, 0.96-1.03, P = 0.6007) and birth weight of newborns (1.00, 1.00-1.00, P = 0.4809). Conclusion The incidence of 34DPT was found to be 7.8% following first delivery however there was no significant increase in risk of subsequent 34DPT at vaginal birth. The study results also suggest that there were no differences in anthropometry measures of both mothers and newborn in women who chose vaginal birth or a caesarean section in subsequent deliveries.

Database: EMBASE

16. The impact of first birth obstetric anal sphincter injury on the subsequent birth: A population-based linkage study

Author(s): Ampt A.J.; Roberts C.L.; Morris J.M.; Ford J.B.

Source: BMC Pregnancy and Childbirth; Feb 2015; vol. 15 (no. 1)

Publication Date: Feb 2015

Publication Type(s): Article

Available at BMC Pregnancy and Childbirth - from BioMed Central

Available at BMC Pregnancy and Childbirth - from SpringerLink - Medicine

Available at BMC Pregnancy and Childbirth - from ProQuest (Health Research Premium) - NHS Version

Available at BMC Pregnancy and Childbirth - from Unpaywall

Abstract: Background: With rising obstetric anal sphincter injury (OASI) rates, the number of women at risk of OASI recurrence is in turn increasing. Decisions regarding mode of subsequent birth following an OASI are complex, and depend on a variety of factors. We sought to identify the risk factors for OASI recurrence from first and subsequent births, and to investigate the effect of OASI birth factors on planned caesarean for the second birth. Methods: Using two linked population datasets from New South Wales, Australia, we selected women giving birth between 2001 and 2011 with a first birth OASI and a subsequent birth. Multivariable logistic regression was used to identify the association of first and second birth factors with OASI recurrence, and to determine which factors were associated with a planned pre-labour caesarean at the second birth. Results: Of 6,380 women with a first birth OASI who proceeded to a subsequent birth, 75.4% had a vaginal second birth, 19.4% a pre-labour caesarean, and 5.2% an intrapartum caesarean. Although the OASI recurrence rate of 5.7% was significantly higher than the first birth OASI rate of 4.5% ($p<0.01$), this may not reflect a clinically significant increase. Following adjustment for first and second birth factors, first birth diabetes and second birthweight >=3.5 kg were associated with increased likelihood of OASI recurrence, while first birthweight >=4.0 kg and second gestation at 37-38 weeks were associated with decreased likelihood. A fourth degree tear at the first birth was the strongest factor associated with planned caesarean at the second birth, with other factors including epidural, spinal or general anaesthetic, birthweight, gestation, country of birth and maternal age. Conclusions: Compared with previous reports, the low OASI recurrence rate (approximately one in twenty) may reflect appropriate decision-making about subsequent mode of delivery following first birth OASI. This assertion is supported by evidence of different risk profiles for women who have planned caesareans compared with planned vaginal births.

Database: EMBASE

17. Impact of third- and fourth-degree perineal tears at first birth on subsequent pregnancy outcomes: a cohort study.

Author(s): Edozien, L C; Gurol-Urganci, I; Cromwell, D A; Adams, E J; Richmond, D H; Mahmood, T A; van der Meulen, J H

Source: BJOG : an international journal of obstetrics and gynaecology; Dec 2014; vol. 121 (no. 13); p. 1695-1703

Publication Date: Dec 2014

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 25040835

Available at BJOG : an international journal of obstetrics and gynaecology - from Wiley Online Library

Abstract:OBJECTIVETo investigate, among women who have had a third- or fourth-degree perineal tear, the mode of delivery in subsequent pregnancies as well as the recurrence rate of third- or fourth-degree tears.DESIGNA retrospective cohort study of deliveries using a national administrative database.SETTINGThe English National Health Service between 1 April 2004 and 31 March 2012.POPULATIONA total of 639,402 primiparous women who had a singleton, term, vaginal live birth between April 2004 and March 2011, and a second birth before April 2012.METHODSMultivariable logistic regression models were used to estimate odds ratios, adjusted for other risk factors.MAIN OUTCOME MEASURESMode of delivery and recurrence of tears at second birth.RESULTSThe rate of elective caesarean at second birth was 24.2% for women with a third- or fourth-degree tear at first birth, and 1.5% for women without (adjusted odds ratio, aOR 18.3, 95% confidence interval, 95% CI 16.4-20.4). Among women who had a vaginal delivery at second birth, the rate of third- or fourth-degree tears was 7.2% for women with a third- or fourth-degree tear at first birth, compared with 1.3% for women without (aOR 5.5, 95% CI 5.2-5.9).CONCLUSIONSThe risk of a severe perineal tear is increased five-fold in women who had a third- or fourth-degree tear in their first delivery. This increased risk should be taken into account when decisions about mode of delivery are made.

Database: Medline

18. Recurrence of obstetric third-degree and fourth-degree anal sphincter injuries

Author(s): Boggs E.W.; Berger H.; Urquia M.; McDermott C.D.

Source: Obstetrics and Gynecology; Dec 2014; vol. 124 (no. 6); p. 1128-1134

Publication Date: Dec 2014

Publication Type(s): Conference Paper

PubMedID: 25415164

Available at Obstetrics and Gynecology - from Ovid (Journals @ Ovid) - Remote Access

Abstract:OBJECTIVE: To examine outcomes after primary obstetric anal sphincter injuries in a subsequent pregnancy.METHODS: This was a retrospective analysis of prospectively collated data from a large perinatal database between 2006 and 2010. Primiparous vaginal deliveries with an obstetric anal sphincter injury were identified and tracked to identify their subsequent delivery characteristics and perineal outcomes.RESULTS: A primary obstetric anal sphincter injury occurred in 5.3% of primiparous vaginal deliveries (9,857/186,239); of those patients, 2,093 had a subsequent delivery, and 91.9% delivered vaginally (1,923/2,093). The recurrent obstetric anal sphincter injury rate was also found to be 5.3% (102/1,923). The adjusted odds ratios (ORs) for primary obstetric anal sphincter injuries were significantly increased in large-for-gestational-age neonates for both third-degree laceration (adjusted OR 2.1, 95% confidence interval [CI] 1.9-2.2) and fourth-degree

laceration (adjusted OR 2.7, 95% CI 2.3-3.1) and almost all obstetric interventions studied. The adjusted ORs for recurrent obstetric anal sphincter injuries were significant for large-for-gestational-age (25/102, adjusted OR 2.2, 95% CI 1.3-3.6) and instrumental deliveries (15/102, adjusted OR 2.4, 95% CI 1.2-4.6).CONCLUSION: In this study population, the incidence of recurrent obstetric anal sphincter injuries was similar to that of primary obstetric anal sphincter injuries, and most patients went on to deliver vaginally for subsequent deliveries. The risk of recurrent obstetric anal sphincter injuries was doubled in those who delivered a large-forgestational- age neonate and in those who had an instrumental delivery.

Database: EMBASE

19. Interventions for women in subsequent pregnancies following obstetric anal sphincter injury to reduce the risk of recurrent injury and associated harms

Author(s): Farrar D.; Tuffnell D.J.; Ramage C.

Source: Cochrane Database of Systematic Reviews; Nov 2014; vol. 2014 (no. 11)

Publication Date: Nov 2014

Publication Type(s): Review

PubMedID: 25373366

Available at Cochrane Database of Systematic Reviews - from Cochrane Collaboration (Wiley)

Abstract: Background: Perineal damage occurs frequently during childbirth, with severe damage involving injury to the anal sphincter reported in up to 18% of vaginal births. Women who have sustained anal sphincter damage are more likely to suffer perineal pain, dyspareunia (painful sexual intercourse), defaecatory dysfunction, and urinary and faecal incontinence compared to those without damage. Interventions in a subsequent pregnancy may be beneficial in reducing the risk of further severe trauma and may reduce the risk of associated morbidities. Objectives: To examine the effects of Interventions for women in subsequent pregnancies following obstetric anal sphincter injury for improving health. Search methods: We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (30 September 2014). Selection criteria: Randomised controlled trials, cluster-randomised trials and multi-arm trials assessing the effects of any intervention in subsequent pregnancies following obstetric anal sphincter injury to improve health. Quasi-randomised controlled trials and cross-over trials were not eligible for inclusion. Data collection and analysis: No trials were included. In future updates of this review, at least two review authors will extract data and assess the risk of bias of included studies. Main results: No eligible completed trials were identified. One ongoing trial was identified. Authors' conclusions: No relevant trials were included. The effectiveness of interventions for women in subsequent pregnancies following obstetric anal sphincter injury for improving health is therefore unknown. Randomised trials to assess the relative effects of interventions are required before clear practice recommendations can be made.

Database: EMBASE

20. Recurrent obstetric anal sphincter injuries (OASIS): Is prediction possible?

Author(s): Doumouchtsis S.K.; Gauthaman N.; Anparasan A.; Abbas N.; Chis-Ster I.

Source: Neurourology and Urodynamics; Aug 2014; vol. 33 (no. 6); p. 883-884

Publication Date: Aug 2014

Publication Type(s): Conference Abstract

Available at Neurourology and Urodynamics - from Wiley Online Library

Abstract: Hypothesis/aims of study: Seventy percent of women experience some degree of perineal injury following a vaginal delivery (1). According to the RCOG guidelines, those who have persistent symptoms of anal incontinence should have the option of elective caesarean delivery (2). A few studies have attempted to look at modes of delivery following an obstetric anal sphincter injury (OASI), however there is limited evidence on outcomes of women having a vaginal delivery following an OASI and recurrence of these injuries. The objective of our study was to review the incidence of recurrent OASI. We also evaluated possible risk factors for recurrence of OASI, including operative vaginal deliveries, birth weight, and head circumference. Study design, materials and methods: This is a secondary analysis of a retrospective case series of consecutive OASIs cases from our hospital maternity records during the period of 2001 to 2013. Four hundred and seventy five women were identified as having subsequent deliveries from the original cohort of 1702 women who had sustained OASI. We identified and included only those who had a vaginal delivery. We reviewed a number of factors and their possible predictive role as risk factors for recurrent OASIs including: head circumference, birth weight, BMI, age, ethnicity, mode of delivery, grade of accoucheur, inter-delivery time interval, parity and smoking. Appropriate coding applied used Microsoft Excel to assist with data analysis. Statistical data analysis was undertaken through binary logistic regression using the SPSS v 21. Results: Of the 1702 women originally identified having sustained an Obstetric Anal Sphincter injury during the study period, 475 had another delivery after OASI. From this cohort of women who delivered after an OASI, 307 had vaginal deliveries and 168 a caesarean section. Out of the 307 subsequent vaginal deliveries 28 women (9.12%) experienced a subsequent OASI(Figure Presented). Interpretation of results: A low subsequent vaginal delivery rate may be due to tocophobia following a traumatic birth or the possibility of subsequent delivery at another hospital. Nevertheless, from our data spanning over ten years, we identified 28 cases of recurrent OASIs with an incidence rate of 9.12%. In our cohort, most studied factors with the exception of birth weight did not appear to have a significant impact on the risk of recurrence. According to our data analysis, an increase of 1kg in birth weight increases the odds of sustaining a third or fourth degree tear by a factor of 2.53. Concluding message: Our small cohort suggests that the rates of recurrence of OASIs are relatively low and a vaginal delivery following previous OASI is an option that could be offered to women with detailed counseling. Further research is need to follow up these women prospectively and include symptom scores, long term follow up as well as quality of life data. Development of risk prediction models may allow better selection of women at high risk of recurrence and optimal planning for delivery.

Database: EMBASE

21. Rates and Indicators for Episiotomy in Modern Obstetrics - a study from Saudi Arabia.

Author(s): Saadia, Zaheera

Source: Materia socio-medica; Jun 2014; vol. 26 (no. 3); p. 188-190

Publication Date: Jun 2014

Publication Type(s): Journal Article

PubMedID: 25126014

Abstract:BACKGROUNDThis observational study aimed to describe the rates and indicators for practice of episiotomy during normal labour and to compare them between women who have had one pregnancy (PG) and women who have already delivered two or more children (G2 and above).METHODSThe study was conducted at Mother and Child Hospital, Buraidah from October-December 2013 as a descriptive cross sectional study.RESULTSOverall rate of Episiotomy was 51.20%. Amongst the Primigravidas all went through episiotomies however in G2 and above only 7 patients (4.69%) delivered with episiotomy. Proportions tests revealed that there were significant differences between gravidity groups on two indications of episiotomy (vaginal breech $p < 0.001$ and previous history of perineal tear $p < 0.001$). G2 and above had episiotomy for breech delivery (1 of 7 = 14.29%) significantly more often than PG participants (0 of 142 = 0.0%). And G2 and above participants experienced episiotomy for previous perineal tear (2 of 7 = 28.5% as compared to none in PG No other significant differences were found on indications of episiotomy.CONCLUSIONEpisiotomy is a very common obstetric intervention (51.20%). The PG experience episiotomy significantly more often than G2 and above women. Efforts should be made to reduce its rates. This can be done by reviewing the indications and rates at repeated intervals and setting guidelines for these indications.

Database: Medline

22. Mode of delivery and perineal injury following primary obstetric anal sphincter injury

Author(s): Nausheen S.; Roberts A.J.; Wakefield N.; Canavan L.; Dinardo L.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Apr 2014; vol. 121 ; p. 228

Publication Date: Apr 2014

Publication Type(s): Conference Abstract

Available at BJOG: An International Journal of Obstetrics and Gynaecology - from Wiley Online Library

Abstract: Introduction Obstetric anal sphincter injury (OASI) complicates 1% of vaginal deliveries. It is believed that 60-80% of women are asymptomatic following OASI repair at 12 months but studies have shown that 17-24% developed worsening of faecal symptoms after a second vaginal delivery. The risk of recurrent OASI is believed to be 5-7 fold higher in women with a previous OASI, however the true recurrence is not exactly known due to various confounding factors. Methods We conducted a retrospective review of deliveries in two maternity units in the Mersey Deanery (UK), between 2007 and 2012 (29 706 deliveries). We identified 176 women who had sustained an OASI in a previous pregnancy who went on to have a subsequent delivery, (188 subsequent deliveries).The primary outcomes studied were mode of delivery and perineal injury sustained in the subsequent delivery. Data collection also included faecal symptoms, rates of postnatal follow-up after the primary OASI, and attendance and counselling in antenatal clinic in the subsequent pregnancy. Results Regarding mode of delivery in the subsequent pregnancies there were 141/188 (75.0%) spontaneous vaginal deliveries, 4/188 (2.1%) instrumental deliveries, 25/188 (13.3%) caesarean sections for previous OASI, and 18/188 (9.6%) caesarean sections for other indications. Of the 145 vaginal deliveries, the recurrence rate of OASI was 3/145 (2.1%). A second degree tear was sustained in 97/145 (66.9%), first degree in 15/145 (10.3%), episiotomy in 17/145 (11.7%), and the perineum was intact in 13/145 (9.0%).After the primary OASI, 22/176 women (12.5%) had faecal symptoms, 59.1% of these were transient and 40.9% were persistent. There was no documentation of postnatal follow-up after the primary OASI in 20.8% patients. Furthermore, 12.8%were not documented to have been seen by an obstetrician in high risk antenatal clinic in the subsequent pregnancy. There was no documentation of counselling regarding the previous OASI in 36.8% and where counselling was documented, it most often included only mode of delivery. Conclusion In our series, 77.1% women achieved a vaginal birth following a previous OASI and only 2.1% of these sustained a recurrence, which is fairly low compared to the rates quoted in literature of 7.1%. Antenatal counselling is poorly documented and this needs to be improved. We also recommend the use of this data in information leaflets to allow women to make an informed choice regarding the mode of delivery following OASI. We need to use validated symptom questionnaires during follow-up to evaluate the functional outcomes.

Database: EMBASE

23. Delivery outcomes and events in subsequent pregnancies after previous anal sphincter injury.

Author(s): Ali, Amanda; Glennon, Kate; Kirkham, Colin; Yousif, Seifeldin; Eogan, Maeve

Source: European journal of obstetrics, gynecology, and reproductive biology; Mar 2014; vol. 174 ; p. 51-53

Publication Date: Mar 2014

Publication Type(s): Journal Article

PubMedID: 24398029

Abstract:OBJECTIVETo assess the mode of delivery following previous anal sphincter injury (ASI), and to evaluate the perineal outcome following a vaginal birth.STUDY DESIGNRetrospective data search of the hospital Patient Access System on patients who delivered following previous ASI from 2010 to 2012. When a second ASI was sustained, additional information was gathered from the patients' medical notes. Continuous variables were described by counts and percentages and analysed using SPSS version 20.RESULTSBetween January 2010 and July 2012, 138 women with previous ASI delivered at the Rotunda Hospital, of whom 69 (50%) had a spontaneous vaginal delivery (SVD), 13 (9.4%) had an instrumental delivery (11 vacuum, 2 forceps), and 56 (40.6%) had a caesarean section. Of these caesarean sections, 43 (76.8%) were elective, and 13 (23.2%) were emergency. Of the 82 vaginally delivered patients, the majority had a second degree perineal tear or minor lacerations (54/82 and 14/82 respectively) but 11 had a third degree perineal tear following an SVD - a recurrence risk of 13.4%. There was no significant difference in the average birthweight between patients who sustained a second ASI (3644g) compared to those who did not (3680g). None of the patients who had a second ASI developed faecal incontinence symptoms postnatally: two patients developed flatal incontinence which resolved with physiotherapy.CONCLUSIONThis study highlights the importance of individualised antenatal assessment in patients with a previous ASI. They may have a personal preference when considering their mode of delivery. A specialist clinic affords them the opportunity for a detailed discussion. In this study, 86.5% of women who delivered their subsequent baby vaginally did not sustain an ASI, while 13.4% had a repeat ASI following vaginal birth. It is therefore important to counsel regarding the incidence of repeat ASI, but also to emphasise that it is generally impossible to confidently predict recurrence antenatally.

Database: Medline

24. Subsequent pregnancy Outcomes After Obstetric Anal Sphincter Injuries (OASIS)

Author(s): Basham E.; Stock L.; Lewicky-Gaupp C.; Mitchell C.; Gossett D.R.

Source: Obstetrical and Gynecological Survey; Feb 2014; vol. 69 (no. 2); p. 78-79

Publication Date: Feb 2014

Publication Type(s): Note

Available at Obstetrical and Gynecological Survey - from Ovid (Journals @ Ovid) - Remote Access

Abstract: The rate of obstetric anal sphincter injuries (OASISs) at the time of vaginal delivery ranges from 0.0% to 23.9%. There is increasing evidence that OASIS can be prevented during birth by decreased use of 2 established risk factors for OASIS, use of episiotomies, and the use of forceps during operative vaginal deliveries. Few studies have investigated risk factors for recurrence of OASIS in a subsequent pregnancy.The aim of this retrospective study was to determine the rate of recurrent OASIS in women with a prior OASIS and to identify risk factors for recurrence. Participants were women who sustained an OASIS between November 2005 and March 2010 at a tertiary care hospital; data were obtained by review of their charts.A total of 1629 women had an OASIS, and 758 (46%) went on to have a subsequent pregnancy during the study period; 685 (90%) were delivered vaginally. Twenty-three (3.2%) of these women sustained a recurrent sphincter injury. Risk factors for recurrence included larger birth weight (27% >=4000 g vs 11.6% <4000 g; P = 0.04) and delivery mode (25.0%, 12.5%, and 2.7% for forceps-assisted, vacuum-assisted, and spontaneous deliveries, respectively; P = 0.0001). Neither a history of a fourth-degree laceration, prior wound complications, or episiotomy at a subsequent delivery increased the risk of recurrence.These data show that the observed rate of recurrent OASIS was only 3.2% among women who subsequently delivered vaginally. Significant risk factors for recurrence were operative vaginal delivery and birth weight 4000 g or greater. Neither episiotomy at first delivery or at subsequent delivery increased recurrence risk. © 2014 by Lippincott Williams & Wilkins.

Database: EMBASE

25. Third and fourth degree perineal tears--the risk of recurrence in subsequent pregnancy.

Author(s): Yogev, Yariv; Hiersch, Liran; Maresky, Lance; Wasserberg, Nir; Wiznitzer, Arnon; Melamed, Nir

Source: The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians; Jan 2014; vol. 27 (no. 2); p. 177-181

Publication Date: Jan 2014

Publication Type(s): Journal Article

PubMedID: 23682932

Abstract:OBJECTIVETo assess the risk of recurrence of third- and fourth-degree perineal tears (34DPT) and to determine whether previous 34DPT is an independent risk factor for 34DPT in subsequent deliveries.METHODThe study group included all women who had a vaginal delivery complicated by 34DPT (2000-2012, N = 356) and subsequently delivered again in the same medical center (N = 204). The rate of recurrence of 34DPT was compared with a control group of women who had a previous vaginal delivery not complicated by 34DPT (N = 58 581) and had a subsequent delivery in the same time period (N = 23 045).RESULTSWomen in the past-34DPT group had a higher rate of CS (18.6% versus 10.1%, p < 0.001), fetal head in occiput-posterior position (POP; 2.5% versus 0.7%, p = 0.004) and mediolateral episiotomy (25.5% versus 19.4%, p = 0.03). Women in the past-34DPT group had a higher rate of 34DPT in the subsequent delivery (2.0% versus 0.3%, p < 0.001). The rate of recurrence of 34DPT was considerably higher among women with past fourth-degree

tear versus women with past third-degree tear (22.2% versus 1.0%, p < 0.001). 34DPT in previous pregnancy is independently associated with increased risk of 34DPT in subsequent delivery (OR = 4.6, 95%-CI 1.3-15.3).CONCLUSIONWomen who experienced 34DPT in their previous pregnancy have an increased risk for recurrence of 34DPT in subsequent pregnancy, especially in cases of past fourth-degree tears.

Database: Medline

26. Subsequent pregnancy outcomes after obstetric anal sphincter injuries (OASIS).

Author(s): Basham, Elizabeth; Stock, Laura; Lewicky-Gaupp, Christina; Mitchell, Christopher; Gossett, Dana R

Source: Female pelvic medicine & reconstructive surgery; 2013; vol. 19 (no. 6); p. 328-332

Publication Date: 2013

Publication Type(s): Journal Article

PubMedID: 24165445

Available at Female pelvic medicine & reconstructive surgery - from Ovid (LWW Total Access Collection 2019 - with Neurology)

Abstract:OBJECTIVESTo describe obstetric outcomes in women with a prior obstetric anal sphincter injury (OASIS) and to identify risk factors for recurrence.METHODSA retrospective chart review of women who sustained an OASIS between November 2005 and March 2010 at a tertiary care hospital was performed to identify risk factors for recurrence.RESULTSOne thousand six hundred twenty-nine patients had an OASIS. Of these, 758 patients (90%) subsequently delivered during the aforementioned timeframe; 685 patients had a subsequent vaginal delivery. Of the women, 3.2% had a recurrent OASIS. Recurrence was associated with larger birth weight (27% ≥4000 g vs 11.6% <4000 g; P = 0.04) and delivery mode (25.0%, 12.5%, and 2.7% for forceps-assisted, vacuum-assisted, and spontaneous deliveries, respectively (P = 0.0001)), whereas a history of fourth-degree laceration, prior wound complication, or episiotomy at subsequent delivery were not (P = 0.5, P = 0.5, and P = 0.4, respectively).CONCLUSIONSRecurrent OASIS occurred in a small percentage of women (3.2%) who subsequently delivered vaginally. Recurrent OASIS was associated with operative vaginal delivery and birth weight 4000 g or greater. Neither episiotomy at first delivery nor at subsequent delivery conferred an increased recurrence risk.

Database: Medline

27. In women who sustained a third-degree perineal tear, can we predict further tears in subsequent deliveries?

Author(s): Eddama M.; Totton L.; Vasudevan S.P.; Motson R.

Source: International Journal of Surgery; 2013; vol. 11 (no. 8); p. 629

Publication Date: 2013

Publication Type(s): Conference Abstract

Available at International Journal of Surgery - from Unpaywall

Abstract: Objective: To establish if it is possible to predict further tears in women who sustained a third-degree perineal tear in their previous pregnancy. Methods: All women who sustained a third-degree perineal tear were referred to a colorectal clinic for a follow up appointment after birth to assess the anatomical and physiological anal function, by clinical examination and endo-anal ultrasound. Women were then either advised to have a vaginal delivery or a caesarian section in any future pregnancy. We followed up these women's subsequent deliveries over a nine-year period. Results:Data on 115womenwere analysed.Of these,19 (15%)were advised to have caesarian section and 96 (74%) were advised to have vaginal delivery in future pregnancies.Of thewomenwhowere advised to have vaginal delivery, 2 sustained a third-degree, 15 a second-degree, and 1 a first-degree vaginal tear. Of thewomen advised to have a caesarian section, 3 had vaginal delivery; 2 had no complications and 1 sustained a second-degree tear. The overall rate of recurrent third-degree vaginal tear was 1.7%. Conclusions: We propose that clinical examination and endo-anal ultrasound findings can be used as a guide to advice this group of women in their subsequent deliveries.

Database: EMBASE

28. Outcome of childbirth after previous obstetric anal sphincter injury

Author(s): Daly J.O.; Sultan A.H.; Van delft K.W.; Thakar R.

Source: International Urogynecology Journal and Pelvic Floor Dysfunction; May 2013; vol. 24

Publication Date: May 2013

Publication Type(s): Conference Abstract

Available at International Urogynecology Journal and Pelvic Floor Dysfunction - from SpringerLink - Medicine

Available at International Urogynecology Journal and Pelvic Floor Dysfunction - from ProQuest (Health Research Premium) - NHS Version

Abstract: Objective: To establish subjective and objective measures using validated tools in pregnant women who have sustained a previous Obstetric Anal Sphincter Injuries (OASIS) and prospectively evaluate outcomes following a recommended mode of delivery. Background: In accordance with national guidelines (1), antenatal women with a history of OASIS are assessed and counselled about their delivery options regarding the risk of worsening anorectal symptoms. Our practice is to recommend a vaginal delivery to those women with minimal symptoms, an intact sphincter or a external sphincter scar of less than 30degree and a squeeze incremental pressure of more than 20 mm Hg, A caesarean section (CS) is recommended to all other women.. Despite adoption of this approach (2), there is limited supporting evidence suggesting no significant deterioration in anorectal function in those with normal objective antenatal assessment (3). Methods: This prospective cohort study included antenatal women with a history of OASIS presenting to a university hospital perineal clinic between March 2003 and December 2012 for assessment and counselling regarding subsequent mode of delivery,. All such women routinely had a St Mark's Incontinence Score (SMIS), Endoanal Ultrasonography (EAUS) using a 10-16 MHz 360degree rotating probe (BK Medical) and anal manometry (air-filled balloon Stryker manometer). The SMIS was

categorised into asymptomatic (0), minor (1-4), moderate (5-8) and severe (9+) symptoms. The primary outcome measure was subjective outcome of bowel function and lifestyle as assessed by SMIS. Secondary outcomes were recommended mode of delivery, subsequent mode of delivery, degree of perineal trauma and paired ante- and postnatal anorectal function parameters. Analysis of these outcomes was performed using Chi- Square and the student T-Test, as appropriate. All data was collected prospectively and stored in a standardised institutional database. Results: 381 women were seen antenatally at a mean duration of 38.4 +/-22 months following the index OASIS. 321(84.3 %) were recommended to have a vaginal delivery, of whom 8 (2.5 %) requested a CS. 247 (85.2 %) had a vaginal delivery from which there were 19 (7.6 %) recurrent OASIS, 17 (89.5 %) of which occurred during a normal vaginal delivery. 58 (15.2 %) were recommended to have a CS, of whom forty-three (86 %) did so. Of those who proceeded to have a vaginal delivery, three had a recurrent OASIS. (Table presented) Conclusions: With comprehensive antenatal risk assessment of anorectal function and counselling of women with a previous OASIS, the majority of women with minimal symptoms, an intact or minimally scarred anal sphincter with an incremental squeeze pressure of >20 mmHg can achieve a vaginal delivery without clinical deterioration in anorectal symptoms and lifestyle at 3 months postpartum. It is useful for women with a history of OASIS to have a thorough assessment of anal sphincter integrity and function prior to subsequent childbirth.. Ongoing studies continue to investigate the long-term outcomes of these women.

Database: EMBASE

29. Risk of recurrence, subsequent mode of birth and morbidity for women who experienced severe perineal trauma in a first birth in New South Wales between 2000-2008: a population based data linkage study.

Author(s): Priddis, Holly; Dahlen, Hannah G; Schmied, Virginia; Sneddon, Annie; Kettle, Christine; Brown, Chris; Thornton, Charlene

Source: BMC pregnancy and childbirth; Apr 2013; vol. 13 ; p. 89

Publication Date: Apr 2013

Publication Type(s): Journal Article

PubMedID: 23565655

Available at BMC pregnancy and childbirth - from BioMed Central

Available at BMC pregnancy and childbirth - from SpringerLink - Medicine

Available at BMC pregnancy and childbirth - from Europe PubMed Central - Open Access

Available at BMC pregnancy and childbirth - from ProQuest (Health Research Premium) - NHS Version

Available at BMC pregnancy and childbirth - from Unpaywall

Abstract:BACKGROUNDSevere perineal trauma occurs in 0.5-10% of vaginal births and can result in significant morbidity including pain, dyspareunia and faecal incontinence. The aim of this study is to determine the risk of recurrence, subsequent mode of birth and morbidity for women who experienced severe perineal trauma during their first birth in New South Wales (NSW) between 2000 - 2008.METHODAll singleton births recorded in the NSW Midwives Data Collection between 2000-2008 (n=510,006) linked to Admitted Patient Data were analysed. Determination of morbidity was based upon readmission to hospital within a 12 month time period following birth for a surgical procedure falling within four categories: 1. Vaginal repair, 2. Fistula repair, 3. Faecal and urinary incontinence repair, and 4. Rectal/anal repair. Women who experienced severe perineal trauma during their first birth were compared to women who did not.RESULTS2,784 (1.6%) primiparous women experienced severe perineal trauma during this period. Primiparous women experiencing severe perineal trauma were less likely to have a subsequent birth (56% vs 53%) compared to those

not who did not (OR 0.9; CI 0.81-0.99), however there was no difference in the subsequent rate of elective caesarean section (OR 1.2; 0.95-1.54), vaginal birth (including instrumental birth) (OR 1.0; CI 0.81-1.17) or normal vaginal birth (excluding instrumental birth) (OR 1.0; CI 0.85-1.17). Women were no more likely to have a severe perineal tear in the second birth if they experienced this in the first (OR 0.9; CI 0.67-1.34). Women who had a severe perineal tear in their first birth were significantly more likely to have an 'associated surgical procedure' within the ≤12 months following birth (vaginal repair following primary repair, rectal/anal repair following primary repair, fistula repair and urinary/faecal incontinence repair) (OR 7.6; CI 6.21-9.22). Women who gave birth in a private hospital compared to a public hospital were more likely to have an 'associated surgical procedure' in the 12 months following the birth (OR 1.8; CI 1.54-1.97), regardless of parity, birth type and perineal status.CONCLUSIONPrimiparous women who experience severe perineal trauma are less likely to have a subsequent baby, more likely to have a related surgical procedure in the 12 months following the birth and no more likely to have an operative birth or another severe perineal tear in a subsequent birth. Women giving birth in a private hospital are more likely to have an associated surgical procedure in the 12 months following birth.

Database: Medline

30. A clinical audit; Risk of subsequent perineal trauma after previous obstetric anal sphincter injury

Author(s): Bayar E.; Mukri F.; Ramalingam K.

Source: Archives of Disease in Childhood: Fetal and Neonatal Edition; Apr 2013; vol. 98

Publication Date: Apr 2013

Publication Type(s): Conference Abstract

Available at Archives of Disease in Childhood: Fetal and Neonatal Edition - from BMJ Journals - NHS

Abstract: Introduction Obstetric anal sphincter injuries (OASIS) are a serious complication of vaginal deliveries and can lead to faecal and urinary incontinence. Women, who have sustained OASIS in a previous pregnancy, undergo routine assessment to decide the appropriate mode of delivery in subsequent pregnancies. Many of these women are advised to, or opt for vaginal delivery. Objective To evaluate the risk of subsequent perineal trauma in women who deliver vaginally following OASIS in previous delivery. Methods This retrospective study analysed 88 women between April 2007 and April 2012 who had sustained anal sphincter damage during an index pregnancy and had a subsequent pregnancy and delivery. Results 64 (72.8%) had an instrumental delivery and 24 (27.2%) had a spontaneous vaginal delivery (SVD) in their index pregnancy. In the instrumental delivery group, 21 (32.8%) women had a subsequent Caesarean section delivery (18 elective Caesarean, 3 emergency Caesarean) while 43 (67.2%) women had a vaginal delivery. In the SVD group, 8 (33.3%) women had a Caesarean delivery (6 elective, 2 emergency) while 16 women (66.7%) had a vaginal delivery. Out of the 59 women who had a vaginal delivery, 7 (11.9%) sustained repeat 3rd degree tear, 32 (54.2%) had 2nd degree tear, 7 (11.9%) had episiotomy, 4 (6.8%) had first degree tear, 9 (15.2%) had intact perineum. Discussion Most women with previous anal sphincter injury sustained a second degree tear while nearly 12% had a recurrent third degree tear.

Database: EMBASE

31. Recurrence rate of third degree perineal tears at St Michael's hospital

Author(s): Davies D.L.; Bahl R.

Source: Archives of Disease in Childhood: Fetal and Neonatal Edition; Apr 2013; vol. 98

Publication Date: Apr 2013

Publication Type(s): Conference Abstract

Available at Archives of Disease in Childhood: Fetal and Neonatal Edition - from BMJ Journals - NHS

Abstract: Introduction A number of risk factors for third and fourth degree perineal tears or obstetric anal sphincter injury (OASI) have been identified, but the rate of recurrence is not consistent in the observational studies. Aim To assess the rate of third degree tear following an OASI in the first pregnancy in a tertiary referral unit. Methods Data was collected from maternity database, for women diagnosed with an OASI in their first pregnancy who went on to have a subsequent pregnancy at St. Michael's hospital. Data collection period was between 2007-2012. Data was limited to term, singleton, cephalic deliveries in subsequent pregnancy. Results 210 women met the criteria. 63 (30%) had an elective caesarean section and 147 (70%) opted for vaginal delivery. 10/147 (6.8%) required an emergency LSCS. 14/137 (10.2%) women who had a vaginal delivery sustained a further OASI. When comparing the women who had OASI to women who did not sustain an OASI in the subsequent pregnancy, there was no significant difference between the mean birth weights or the mode of onset of labour. Conclusion Over the five year period the recurrence risk of OASI was low. This information can be used to advise women when discussing mode of delivery in subsequent pregnancies. Further research is needed into the pelvic floor symptom profile of the women who have a vaginal birth following an OASI in the first pregnancy.

Database: EMBASE

32. Need for episiotomy in a subsequent delivery following previous delivery with episiotomy.

Author(s): Lurie, Samuel; Kedar, Daniel; Boaz, Mona; Golan, Abraham; Sadan, Oscar

Source: Archives of gynecology and obstetrics; Feb 2013; vol. 287 (no. 2); p. 201-204

Publication Date: Feb 2013

Publication Type(s): Clinical Trial Journal Article

PubMedID: 22960767

Available at Archives of gynecology and obstetrics - from SpringerLink - Medicine

Abstract:PURPOSETo assess the need of episiotomy in a subsequent delivery in women with previous primiparous vaginal delivery with episiotomy.METHODSIn this historical prospective study, we followed primiparous women who had an episiotomy at a normal vaginal delivery. The study group included parturient women (n = 201) who underwent an episiotomy at a vaginal delivery during a 2-year period (2001-2002). Inclusion criteria were: primiparity, term singleton vaginal delivery, episiotomy, and a subsequent vaginal delivery in Edith Wolfson Medical Center. Exclusion criteria were instrumental delivery at the index delivery, preterm delivery or twins at the subsequent delivery. Episiotomy in the enrolled parturient women was done when it is thought that failure to perform episiotomy would result in perineal tears. The control group (n = 201) was formed from the same time period and included women who had a spontaneous vaginal delivery without episiotomy.RESULTSOf the 201 women with episiotomy at the index delivery, 48 (23.9 %) had episiotomy at the subsequent delivery compared to only 20 women (10.0 %) out of the 201 women without an episiotomy at index delivery ($p < 0.05$). Having an episiotomy at the index delivery significantly increased odds of a subsequent episiotomy (OR 2.84, 95 % CI 1.62-4.99, $p < 0.05$) and the risk of spontaneous perineal tears (59.2 vs. 23.4 %, $p < 0.05$) at the subsequent

delivery.CONCLUSION Episiotomy at first vaginal delivery significantly and independently increased the risk of repeated episiotomy and spontaneous perineal tears in a subsequent delivery.

Database: Medline

33. Trends in obstetric anal sphincter injuries and associated risk factors for vaginal singleton term births in New South Wales 2001-2009

Author(s): Ampt A.J.; Ford J.B.; Roberts C.L.; Morris J.M.

Source: Australian and New Zealand Journal of Obstetrics and Gynaecology; Feb 2013; vol. 53 (no. 1); p. 9-16

Publication Date: Feb 2013

Publication Type(s): Article

PubMedID: 23405994

Abstract: Background Changes in clinical practice and in the characteristics of childbearing women have the potential to influence the rate of obstetric anal sphincter injuries (OASIS). To date, little investigation has been undertaken to assess the effect of risk factor trends for the Australian population on OASIS rates. Aims To ascertain the OASIS rates amongst singleton vaginal births >=37 weeks gestation in NSW, 2001 - 2009; to determine risk factor effect sizes and trends; and to compare predicted with observed OASIS rates. Methods Using two linked population-based data sets, risk factors for OASIS were determined by logistic regression. Contingency tables and predictive modelling were used to determine trends and predicted rates of OASIS, respectively. Results The OASIS rate increased from 2.2% in 2001 to 2.9% in 2009. Highest risks were for forceps deliveries without episiotomy (primiparas aOR 6.10, multiparas aOR 6.15), followed by multiparas with no previous vaginal birth (aOR 5.61). High birthweight, vacuum delivery and Asian country of birth posed risks for all women. The greatest risk factor trends were increases in Asian country of birth and vacuum delivery, while the greatest trend amongst protective factors was an increase in maternal age >=35 years for primiparas. Predicted OASIS rates were lower than observed rates. Conclusion In an environment of changing demographic and clinical risk factors, the OASIS rate has increased. This increase is only minimally explained by the identified risk factors and may be related to other unmeasured risk factors or a possible increase in clinical ascertainment and/or documentation of OASIS. © 2013 The Authors ANZJOG © 2013 The Royal Australian and New Zealand College of Obstetricians and Gynaecologists.

Database: EMBASE

34. Risk factors of recurrent anal sphincter ruptures: a population-based cohort study.

Author(s): Jangö, H; Langhoff-Roos, J; Rosthøj, S; Sakse, A

Source: BJOG : an international journal of obstetrics and gynaecology; Dec 2012; vol. 119 (no. 13); p. 1640-1647

Publication Date: Dec 2012

Publication Type(s): Journal Article

PubMedID: 23078268

Available at BJOG : an international journal of obstetrics and gynaecology - from Wiley Online Library

Abstract:OBJECTIVETo determine the incidence and risk factors of recurrent anal sphincter rupture (ASR).DESIGNPopulation-based retrospective cohort study.SETTINGData were taken from the National Medical Birth Registry, Denmark.POPULATIONPatients with a first and a second vaginal delivery in the time period 1997-2010.METHODSUnivariate analysis and multivariate logistic regression were used to determine risk factors of recurrent ASR.MAIN OUTCOME MEASURESThe incidence of recurrent ASR and odds ratios for possible risk factors of recurrent ASR: age, body mass index, grade of ASR, birthweight, head circumference, gestational age, presentation, induction of labour, oxytocin augmentation, epidural, episiotomy, vacuum extraction, forceps, shoulder dystocia, delivery interval and year of second delivery.RESULTSOut of 159 446 women, 7336 (4.6%) experienced an ASR at first delivery, and 521 (7.1%) had a recurrent ASR (OR 5.91). The risk factors of recurrent ASR in the multivariate analysis were: birthweight (adjusted OR, aOR, 2.94 per increasing kg, 95% CI 2.31-3.75); vacuum extraction (aOR 2.96, 95% CI 2.03-4.31); shoulder dystocia (aOR 1.98, 95% CI 1.11-3.54); delivery interval (aOR 1.08 by year, 95% CI 1.02-1.15); year of second delivery (aOR 1.06, 95% CI 1.03-1.09); and prior fourth-degree ASR (aOR 1.72, 95% CI 1.28-2.29). Head circumference was a protective factor (aOR 0.91 per increasing cm, 95% CI 0.85-0.98).CONCLUSIONSThe incidence of recurrent ASR was 7.1%. Risk factors of recurrent ASR were excessive birthweight, vacuum extraction, shoulder dystocia, delivery interval, year of second delivery and prior fourth-degree ASR. A larger head circumference reduced the risk of recurrent ASR.

Database: Medline

35. Episiotomy and perineal outcome at the next delivery

Author(s): Manzanares S.; Moreno-Martinez M.D.; Sanchez-Gila M.M.; Cobo D.

Source: Journal of Maternal-Fetal and Neonatal Medicine; Jun 2012; vol. 25 ; p. 70

Publication Date: Jun 2012

Publication Type(s): Conference Abstract

Abstract: Objective: We assessed whether the presence and severity of perineal trauma at the first delivery are related to the risk of spontaneous tear or episiotomy at the next delivery. Methods: Retrospective cohort study of 2695 women who gave birth at Virgen de las Nieves University Hospital, Granada, Spain, from 2003 to 2011. Only women who delivered twice in the study period a term, cephalic, single, spontaneous liveborn baby were included. Two groups: Intact perineum (no trauma or first degree spontaneous tear), and perineal trauma (episiotomy or spontaneous second degree or higher spontaneous tear) at the first delivery were compared according to results in the next delivery. Results: Women with perineal trauma were significantly older, but no differences were observed according to gestational age, epidural analgesia or birthweight. Having an intact perineum at the first delivery protected against spontaneous perineal tear second degree or higher (adjusted Odds ration [OR] 0.19, 95% confidence interval [CI] 0.11-0.32) and against episiotomy at the next delivery (adjusted OR 0.26, 95% CI 0.18-0.38), meanwhile perineal trauma at the first

delivery tripled the risk of spontaneous perineal tear second degree or higher (adjusted OR 3.83, 95% CI 2.63-5.56) and had five times higher risk of suffering episiotomy at the next delivery. This risk at the second delivery was attributable to episiotomy and not to spontaneous second degree or higher at the first delivery. Conclusion: The risk of spontaneous perineal tears and episiotomy at subsequent deliveries increases with the practice of episiotomy in the first delivery.

Database: EMBASE

36. Delivery after third-or fourth-degree perineal tear

Author(s): Dilmaghani-Tabriz D.; Soliman N.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Jun 2012; vol. 119 ; p. 42

Publication Date: Jun 2012

Publication Type(s): Conference Abstract

Available at BJOG: An International Journal of Obstetrics and Gynaecology - from Wiley Online Library

Abstract: Objective: The aim of the study is to determine the appropriate method of delivery for patients who previously sustained a thirdor fourth-degree perineal tear at vaginal birth as defined by the RCOG Green top guidelines No 29 (2007). Methods: Patients who had vaginal delivery complicated by third or fourth-degree perineal tear over a period of 3 years (between 2007 and 2009) and who subsequently had a further pregnancy booked in our hospital were identified. We used the hospital database, labour ward registry and patients record notes. Data obtained were the degree of perineal tear, existence of any related symptoms during the subsequent pregnancy and the method of delivery, the degree and sequelae of any further perineal rear. A postal questionnaire was sent to patients who delivered vaginally to estimate any worsening of faecal symptoms. Results: During the 3 year period there were 139 patients who had third- and fourth-degree perineal tear in our hospital. Thirty of those patients had a further pregnancy booked in the same hospital. The perineal tear had been a third- and fourth-degree in 28 and two patients respectively. Fifteen patients had a caesarean section either because they wanted to avoid a similar complication or because of other obstetric reasons and included the two patients with previous fourth-degree tears. Fifteen patients had a second vaginal birth. None of those had symptoms of anal incontinence. At the second delivery three patients had an episiotomy and one patient had a further third degree tear. The remainder had either intact perineum or first- or second-degree tears. We were able to contact 13 of these patients. Two (15.3%) of those patients reported incontinence of flatus after an average period of 15 months. Conclusion: Second vaginal birth after third- and fourth-degree perineal tear may lead to worsening of anal incontinence. Patients should be counselled about this risk to be able to make a balanced decision about the mode of delivery.

Database: EMBASE

37. Outcomes from medium term follow-up of patients with third and fourth degree perineal tears.

Author(s): Bagade, P; Mackenzie, S

Source: Journal of obstetrics and gynaecology : the journal of the Institute of Obstetrics and Gynaecology; 2010; vol. 30 (no. 6); p. 609-612

Publication Date: 2010

Publication Type(s): Journal Article

PubMedID: 20701512

Abstract: Third and fourth degree perineal tears have a considerable bearing on a woman's future continence and quality of life. The RCOG recommends that all symptomatic women or those with abnormal anorectal manometric or endoanal ultrasonographic features should have the option of caesarean birth. We assessed the outcomes of 79 such women with regard to their symptoms, endoanal ultrasound and manometry findings at 6 months after delivery and the mode of delivery in the subsequent pregnancy. Some 85% of the patients were asymptomatic. Five patients (42%) had faecal incontinence and the scarring was the commonest finding on endoanal ultrasound, irrespective of symptoms. The anal manometry showed reduced squeeze and resting pressures in proportionately higher numbers of symptomatic patients. A total of 12 patients underwent a caesarean section in their next pregnancy. Three patients had a repeat third degree tear. Among those who failed to keep the colorectal appointment, we conducted a telephonic questionnaire and found that most women (32 out of 33) were asymptomatic and three women were reluctant to be examined by a male doctor. We recommend appropriate identification, repair, physiotherapy and multidisciplinary follow-up in these patients to improve long-term outcomes.

Database: Medline

38. Third degree tears and subsequent delivery

Author(s): Costa J.; Zawislak A.

Source: Archives of Disease in Childhood: Fetal and Neonatal Edition; Jun 2010; vol. 95

Publication Date: Jun 2010

Publication Type(s): Conference Abstract

Available at Archives of Disease in Childhood: Fetal and Neonatal Edition - from BMJ Journals - NHS

Abstract: Introduction Overall risk of third degree tears (3DT) is about 1% of all vaginal deliveries and a previous 3DT increases the risks of recurrence in future vaginal deliveries. Aim To identify the factors influencing the mode of delivery and to assess the perineal outcome in subsequent pregnancy following 3DT. Methods 31 patients who have sustained 3DT during 2 years period and had a subsequent delivery were identified through computerised patient data. Two sets of notes were reviewed for each patient. Results 10 mothers were unaware of the previous 3DT and these mothers were managed as low risk parous women during subsequent pregnancies. The Elective Caesarean section rate in this group was 2% compared to 33% in those who were known to have previous 3DT. There was no recurrence of third degree tears in the study group and the episiotomy rate was 57% in mothers who were known to have had a 3DT compared to 0% in those who were unknown. Conclusion The single most important factor which influences the mode of delivery following 3DT and perineal outcome in subsequent pregnancy is the women's awareness of having a 3DT and the clinicians should provide more information to the women about the nature of the tear on discharge.

Database: EMBASE

39. Episiotomy and increase in the risk of obstetric laceration in a subsequent vaginal delivery.

Author(s): Alperin, Marianna; Krohn, Marijane A; Parviainen, Kristiina

Source: Obstetrics and gynecology; Jun 2008; vol. 111 (no. 6); p. 1274-1278

Publication Date: Jun 2008

Publication Type(s): Journal Article

PubMedID: 18515508

Available at Obstetrics and gynecology - from Ovid (LWW Total Access Collection 2019 - with Neurology)

Abstract:OBJECTIVETo examine whether episiotomy at first vaginal delivery increases the risk of spontaneous obstetric laceration in the subsequent delivery.METHODSA review was conducted of women with consecutive vaginal deliveries at Magee-Womens Hospital between 1995 and 2005, using the Magee Obstetrical Maternal and Infant database. The primary exposure of interest was episiotomy at first vaginal delivery. Multivariable polytomous logistic regression modeling of potential risk factors was used to estimate odds ratios (ORs) for obstetric laceration in the second vaginal delivery.RESULTSA total of 6,052 patients were included, of whom 47.8% had episiotomy at first delivery. Spontaneous second-degree lacerations at the time of second delivery occurred in 51.3% of women with history of episiotomy at first delivery compared with 26.7% without history of episiotomy (P<.001). Severe lacerations (third or fourth degree) occurred in 4.8% of women with history of episiotomy at first delivery compared with 1.7% without history of episiotomy (P<.001). Prior episiotomy remained a significant risk factor for second-degree (OR 4.47, 95% confidence interval 3.78-5.30) and severe obstetric lacerations (OR 5.25, 95% confidence interval 2.96-9.32) in the second vaginal delivery after controlling for confounders. Based on these findings, for every four episiotomies not performed one second-degree laceration would be prevented. To prevent one severe laceration, performing 32 fewer episiotomies is required.CONCLUSIONEpisiotomy at first vaginal delivery increases the risk of spontaneous obstetric laceration in the subsequent delivery. This finding should encourage obstetric providers to further restrict the use of episiotomy.LEVEL OF EVIDENCEII.

Database: Medline

40. Risk factors for primary and subsequent anal sphincter lacerations: a comparison of cohorts by parity and prior mode of delivery.

Author(s): Lowder, Jerry L; Burrows, Lara J; Krohn, Marijane A; Weber, Anne M

Source: American journal of obstetrics and gynecology; Apr 2007; vol. 196 (no. 4); p. 344

Publication Date: Apr 2007

Publication Type(s): Journal Article

PubMedID: 17403415

Abstract:OBJECTIVEThis study was performed to assess the effect of pregnancy, route of delivery, and parity on the risk of primary and subsequent anal sphincter laceration in women at first vaginal delivery (1st VD), vaginal birth after cesarean delivery (VBAC), or second vaginal delivery (2nd VD).METHODSThis retrospective cohort study used data from a perinatal database that included all deliveries at Magee-Womens Hospital from 1995 to 2002. Anal sphincter laceration was the primary outcome, defined as third- and fourth-degree perineal lacerations. The adjusted odds ratio (OR) for primary and subsequent anal sphincter laceration at delivery by risk group was estimated using logistic regression models and reported with 95% confidence intervals (CIs).RESULTSWe assessed 20,674 live, singleton, term deliveries at Magee-Womens Hospital from 1995 to 2002, including 13,183 with 1st VD, 6068 with 2nd VD, and 1423 with VBAC. Anal sphincter laceration occurred in

16% of women with 1st VD, 18% with VBAC, and 3% with 2nd VD. Multivariable logistic regression modeling for primary anal sphincter laceration showed that 1st VD had OR of 5.1 and 95% CI 4.4, 5.9, and VBAC had OR of 5.1, 95% CI 4.2, 6.2 when compared with the reference group with 2nd VD. Shown in order for 1st VD, VBAC, and 2nd VD, the following factors, adjusted for the other listed factors, were significantly related to anal sphincter laceration except as noted: forceps, ORs of 3.0, 2.6, 5.5; midline episiotomy, ORs of 2.7, 2.9, 2.9; infant birth weight 3500 g or more, ORs of 1.9, 1.9, 1.1, not significantly different from OR of 1.0; vacuum delivery, ORs of 1.7, 1.8, 1.5, not significantly different from OR of 1.0, and 2nd stage of labor 2 hours or longer, ORs of 1.8, 0.9, 0.9, last 2 not significantly different from OR of 1.0. Of women who had anal sphincter laceration in their first vaginal delivery, 7.2% (76 of 1054 women who had 2 pregnancies) had recurrent laceration in their second vaginal delivery, compared with 2.3% (123 of 5147) of women who had a primary anal sphincter laceration in their second vaginal delivery. Multivariable logistic regression modeling for recurrent anal sphincter laceration yielded the following significant factors: episiotomy, OR 8.5, 95% CI 4.1, 17.7; vertex malpresentation (primarily occiput posterior), OR 4.3, 95% CI 1.4, 12.6; shoulder dystocia, OR 2.7, 95% CI 1.2, 5.8; and infant birth weight 3500 g or greater, OR 1.7, 95% CI 1.1, 2.7.CONCLUSIONAt this institution, women undergoing VBAC are at similarly high risk of anal sphincter laceration, compared with nulliparous women. Women with prior anal sphincter laceration are at 3 times increased risk for subsequent sphincter laceration, compared with women with prior vaginal delivery without sphincter laceration. Pregnancy by itself does not appear to be an important factor in decreasing the risk of anal sphincter laceration in subsequent deliveries.

Database: Medline

41. Is severe perineal damage increased in women with prior anal sphincter injury?

Author(s): Edwards, Heather; Grotegut, Chad; Harmanli, Ozgur H; Rapkin, David; Dandolu, Vani

Source: The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians; Nov 2006; vol. 19 (no. 11); p. 723-727

Publication Date: Nov 2006

Publication Type(s): Journal Article

PubMedID: 17127495

Abstract:OBJECTIVEThere is conflicting data in the literature regarding the risk of obstetric anal sphincter laceration in patients with a prior laceration. This retrospective chart review seeks to examine the risk of recurrence of obstetric anal sphincter lacerations.METHODSPatients who sustained anal sphincter laceration at delivery during a 13-year time period from January 1991 to December 2003 were identified from the medical records database at Temple University Hospital. All subsequent deliveries in this group of patients were extracted from the database. Chart review was performed on all subsequent deliveries with specific attention to demographic factors such as age, race, parity, etc., maternal weight, fetal weight, presence of maternal diabetes, and labor characteristics such as induction or augmentation of labor, instrumentation at delivery (vacuum or forceps), use of episiotomy, and degree of perineal laceration.RESULTSThere were 23 451 vaginal deliveries at Temple University Hospital between January 1, 1991 and December 31, 2003. Anal sphincter laceration was noted in 778 subjects. Subsequent deliveries among the group of patients with prior sphincter tears numbered 271. Six (2.4%) patients had recurrence of anal sphincter lacerations, and five of them were third degree lacerations. The rate of recurrent lacerations was not

significantly different from the rate of initial lacerations (2.4% vs. 3.3%; odds ratio 0.72, 95% confidence interval 0.33-1.59; p = 0.4). Women who sustained recurrent lacerations were older, more obese (mean weight 92 kg vs. 82 kg), had larger babies (3506 g vs. 3227 g), and were more likely to have episiotomies (66.7% vs. 7%) or instrumental deliveries (33.3 vs. 6.5%).CONCLUSIONPrior anal sphincter laceration does not result in an increased rate of recurrence. Operative vaginal delivery particularly with episiotomy is a risk factor for both initial and recurrent laceration.

Database: Medline

42. Risk of recurrence of anal sphincter lacerations.

Author(s): Dandolu, Vani; Gaughan, John P; Chatwani, Ashwin J; Harmanli, Ozgur; Mabine, Bruce; Hernandez, Enrique

Source: Obstetrics and gynecology; Apr 2005; vol. 105 (no. 4); p. 831-835

Publication Date: Apr 2005

Publication Type(s): Journal Article

PubMedID: 15802413

Available at Obstetrics and gynecology - from Ovid (LWW Total Access Collection 2019 - with Neurology)

Abstract:OBJECTIVETo estimate the rate of recurrence of anal sphincter lacerations in subsequent pregnancies and analyze the risk factors associated with recurrent lacerationsMETHODSData were obtained from the Pennsylvania Health Care Cost Containment Council, Division of In-Patient Statistics, regarding all cases of third- and fourth-degree perineal lacerations that occurred during a 2-year period (from January 1990 through December 1991). All subsequent pregnancies in this group of women over the next 10 years were identified, and the rate of recurrence of sphincter tears and risk factors for recurrence were analyzed.RESULTSThe rate of anal sphincter lacerations was 7.31% (n = 18,888) during the first 2 years of study (1990-1991). In the next 10 years, these patients with prior lacerations were delivered of 16,152 pregnancies. Of these, 1,162 were by cesarean. Among the 14,990 subsequent vaginal deliveries, 864 (5.76%) had a recurrence of a third- or fourth-degree laceration. Women with prior fourth-degree lacerations had a much higher rate of recurrence than those with prior third-degree laceration (7.73% versus 4.69%). The rate for recurrent lacerations was significantly lower than the rate for initial lacerations (odds ratio 1.29, 95% confidence interval [CI] 1.2-1.4). Forceps delivery with episiotomy had the highest risk for recurrent laceration (17.7%, odds ratio 3.6, 95% CI 2.6-5.1), whereas vacuum use without episiotomy had the lowest risk (5.88%, odds ratio 1.0, 95% CI 0.6-1.7).CONCLUSIONPrior anal sphincter laceration does not appear to be a significant risk factor for recurrence of laceration. Operative vaginal delivery, particularly with episiotomy, increases the risk of recurrent laceration as it does for initial laceration.LEVEL OF EVIDENCEIII.

Database: Medline

43. Recurrent risk of anal sphincter laceration among women with vaginal deliveries.

Author(s): Spydslaug, Anny; Trogstad, Lill I S; Skrondal, Anders; Eskild, Anne

Source: Obstetrics and gynecology; Feb 2005; vol. 105 (no. 2); p. 307-313

Publication Date: Feb 2005

Publication Type(s): Research Support, Non-u.s. Gov't Comparative Study Journal Article

PubMedID: 15684157

Available at Obstetrics and gynecology - from Ovid (LWW Total Access Collection 2019 - with Neurology)

Abstract:OBJECTIVEThe first aim of this study was to estimate the impact of anal sphincter laceration during the first delivery on the risk of recurrence in the second delivery. The second aim was to estimate the absolute risk of anal sphincter laceration in the second delivery according to the history of anal sphincter laceration and birth weight.METHODSIn this population-based cohort study, the study sample comprised all women included in the Norwegian Medical Birth Registry with 2 consecutive singleton vaginal deliveries during the period 1967-1998 (n = 486,463). The impact of prior anal sphincter laceration on recurrent anal sphincter laceration was estimated as crude and adjusted odds ratios (ORs).RESULTSAnal sphincter laceration during first delivery increased the risk for a sphincter laceration in the next delivery, (adjusted OR 4.3, 95% confidence interval [CI] 3.8-4.8). Other risk factors were birth weight (adjusted OR 23.6, 95% CI 16.5-33.6, birth weight > 5,000 g versus birth weight < 3,000 grams), use of forceps (adjusted OR 5.1, 95% CI 4.3-6.0), use of vacuum (adjusted OR 1.4, 95% CI 1.1-1.7), and period of delivery (adjusted OR 4.3, 95% CI 3.7-5.0 for 1995-1998 versus 1967-1975). The absolute risks for anal sphincter laceration at second delivery for women with prior laceration were 1.3% (95% CI 0.4-3.2%) for birth weight less than 3,000 g and 23.3% (95% CI 11.8-38.6%) for birth weight more than 5,000 g.CONCLUSIONOnly 10% of women with anal sphincter laceration at second delivery had a history of prior laceration. Prior anal sphincter laceration is associated with increased risk of laceration in second delivery, in particular in women who carry children with high birth weight.LEVEL OF EVIDENCEII-2.

Database: Medline

44. Rupture of the sphincter ani: the recurrence rate in second delivery.

Author(s): Elfaghi, Ibtesam; Johansson-Ernste, Birgit; Rydhstroem, Hakan

Source: BJOG : an international journal of obstetrics and gynaecology; Dec 2004; vol. 111 (no. 12); p. 1361-1364

Publication Date: Dec 2004

Publication Type(s): Journal Article

PubMedID: 15663119

Available at BJOG : an international journal of obstetrics and gynaecology - from Wiley Online Library

Abstract:BACKGROUNDInjury to the genital tract sustained during childbirth can lead to transient or protracted morbidity. Attention should be paid to avoidable risk factors that can cause this complication.AIMTo analyse the recurrence, at a later delivery, of trauma to the genital tract, subsequent to perineal laceration of the sphincter ani (third or fourth degree), sustained at an earlier delivery.DESIGNA population-based study.SETTINGIn Sweden, 1973-1997 inclusive.POPULATIONAll women with a vaginal, singleton delivery in Sweden.METHODSThe Medical Birth Registry, the National Board of Health and Welfare, was used to identify cases of ruptured sphincter ani.MAIN OUTCOME MEASURESOR was calculated with 95% confidence interval. A stratified analysis was performed using the Mantel-Haenszel technique. Major end point Rupture of

the sphincter ani (third or fourth degree) at second delivery.RESULTSThe incidence of anal sphincter rupture increased sixfold during the study period, from 0.5% in 1973 to 3.0% in 1997. Women who had sustained a laceration of this type ran a significantly increased risk of a recurrence at a later delivery. This effect persisted even after stratification for birthweight, year of birth, parity and maternal age (OR 4.74, 95% confidence interval 4.34-5.17). When only fourth degree rupture was considered (rupture of both anal sphincter and rectum), the corresponding figures were 6.52 (95% CI 5.29-8.04). This effect also persisted after stratification for birthweight, year of birth, parity and maternal age. The OR for giving birth a second time, subsequent to a third or fourth degree perineal laceration at first delivery, was 0.68 (95% CI 0.67-0.70).CONCLUSIONOur findings suggest that the risk of an anal sphincter rupture at delivery increases five to sevenfold when there has been a similar rupture at a previous delivery. Further study is needed before safe recommendations can be made concerning the subsequent mode of delivery to be adopted, following rupture in the sphincter ani at a previous birth.

Database: Medline

45. Anal sphincter disruption at vaginal delivery: is recurrence predictable?

Author(s): Harkin, Rosemary; Fitzpatrick, Myra; O'Connell, P Ronan; O'Herlihy, Colm

Source: European journal of obstetrics, gynecology, and reproductive biology; Aug 2003; vol. 109 (no. 2); p. 149-152

Publication Date: Aug 2003

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 12860332

Abstract:OBJECTIVEWe prospectively evaluated the risk of recurrence of anal sphincter disruption ("third degree tear") at next vaginal delivery and whether this complication was predictable by antepartum anal functional assessment.STUDY DESIGNAmong 20,111 consecutive vaginal deliveries, where midline episiotomy was not performed, 342 (1.7%) third degree tears occurred, significantly more often in primiparae (2.9%) than multiparae (0.8%; P<0.001), all of whom underwent postpartum anal manometry and endosonography. Similar testing was performed antepartum and postpartum in 56 of 342 women who delivered again during the study period.RESULTSEleven of 56 women were delivered by caesarean in next pregnancy. Third degree tears recurred in 2 (4.4%) of 45 women at next vaginal delivery. Both recurrent injuries occurred in asymptomatic women with normal antepartum manometry and following spontaneous deliveries and were satisfactorily repaired.CONCLUSIONAlthough anal sphincter injury was increased five-fold at next delivery, compared with all multiparae, 95% of women delivering vaginally after previous third degree tear did not sustain further overt sphincter damage. Recurrence was not predictable using pre-delivery anal physiology testing.

Database: Medline

46. The association between perineal trauma and spontaneous perineal tears.

Author(s): Martin, S; Labrecque, M; Marcoux, S; Bérubé, S; Pinault, J J

Source: The Journal of family practice; Apr 2001; vol. 50 (no. 4); p. 333-337

Publication Date: Apr 2001

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 11300986

Available at The Journal of family practice - from EBSCO (Psychology and Behavioral Sciences Collection)

Abstract:OBJECTIVEWe assessed whether women who had a perineal trauma (episiotomy or spontaneous tear of the second degree or higher) at the first delivery were at increased risk for spontaneous perineal tears at the next delivery, and whether the risk increases with the severity of previous perineal trauma.DESIGNRetrospective cohort study.POPULATIONWe included data from 1895 women who had their first and second deliveries at Saint-Sacrement Hospital, Quebec City, Canada, between 1985 and 1994. Our study was restricted to women who gave birth vaginally to a single living neonate at their first 2 deliveries and who did not have an episiotomy at the second delivery. We extracted the data from the Department of Obstetrics computerized database.OUTCOMES MEASUREDSpontaneous perineal tears (of second degree or higher) at the second delivery.RESULTSHaving a perineal trauma at the first delivery more than tripled the risk (relative risk=3.3; 95% confidence interval, 2.6-4.2) of spontaneous perineal tears at the second delivery. The risk of spontaneous perineal tears at the second delivery increased with the severity of previous perineal trauma at birth.CONCLUSIONSOur results show that the risk of spontaneous perineal tears at subsequent deliveries increases with the presence and the severity of perineal trauma at the first delivery.

Database: Medline

47. Anal incontinence in women with third or fourth degree perineal tears and subsequent vaginal deliveries.

Author(s): Sangalli, M R; Floris, L; Faltin, D; Weil, A

Source: The Australian & New Zealand journal of obstetrics & gynaecology; Aug 2000; vol. 40 (no. 3); p. 244-248

Publication Date: Aug 2000

Publication Type(s): Comparative Study Journal Article

PubMedID: 11065029

Available at The Australian & New Zealand journal of obstetrics & gynaecology - from Wiley Online Library

Abstract: We contacted 208 women 13 years after they suffered an obstetrical anal sphincter tear in order to estimate the effect of subsequent vaginal deliveries on anal continence. Among the 177 eligible responders, 129 sustained a partial or complete 3rd degree and 48 a 4th degree tear; 114 women had subsequent vaginal deliveries. Anal incontinence was more common in women with 4th (25.0%) than with 3rd degree tears (11.5%, p = 0.049). Subsequent vaginal deliveries were associated with a higher prevalence of severe incontinence in women with 4th degree tears (p = 0.023). No aggravation or increase in prevalence of incontinence was observed in women with 3rd degree tears. These results suggest that in a subsequent pregnancy, careful evaluation is necessary and an abdominal delivery may be advisable for women with previous major sphincter trauma.

Database: Medline

48. Risk of repetition of a severe perineal laceration.

Author(s): Peleg, D; Kennedy, C M; Merrill, D; Zlatnik, F J

Source: Obstetrics and gynecology; Jun 1999; vol. 93 (no. 6); p. 1021-1024

Publication Date: Jun 1999

Publication Type(s): Comparative Study Journal Article

PubMedID: 10362174

Abstract:OBJECTIVETo compare the outcome of subsequent delivery in women with a history of a third- or fourth-degree laceration with outcomes in women without such a history.METHODSThis retrospective study used a perinatal database and chart review from 1978 to 1995. Only women whose first delivery was at our institution at more than 36 weeks' gestation, vaginal singleton, vertex presentation, and birth weight greater than 2500 g, with a subsequent delivery were included. The women were grouped by presence or absence of a third- or fourth-degree (severe) perineal laceration in their first delivery. The subsequent delivery was analyzed for maternal age, weight, birth weight, gestational age, method of delivery, use of episiotomy, and occurrence of a severe laceration. Comparison of data was by Fisher exact and t tests.RESULTSFour thousand fifteen women met our starting criteria. In their first delivery, the average birth weight, use of instrumentation, and episiotomy rate were significantly higher in those women sustaining a severe laceration. When compared with women without a history of severe perineal laceration, women with such a history were at more than twice the risk for another in their subsequent delivery. The women at highest risk (21.4%) were those sustaining a laceration in their first delivery who underwent instrumental vaginal delivery with episiotomy in their subsequent delivery. When episiotomy or instrumental delivery was performed in the second vaginal birth, 52 (11.6%) of 449 women with a history of a severe perineal laceration sustained another, compared with 98 (6.5%) of 1509 without such a history ($P < .001$, odds ratio 1.9, 95% confidence interval 1.3, 2.7).CONCLUSIONWomen delivering their second baby, and in whom episiotomy or instrumentation is used, are at increased risk of severe perineal laceration compared with women delivery spontaneously.

Database: Medline

49. Prior third- or fourth-degree perineal tears and recurrence risks.

Author(s): Payne, T N; Carey, J C; Rayburn, W F

Source: International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; Jan 1999; vol. 64 (no. 1); p. 55-57

Publication Date: Jan 1999

Publication Type(s): Journal Article

PubMedID: 10190670

Abstract:OBJECTIVEThe objective of the present study is to determine the recurrence risk of a third-degree (into the anal sphincter) or a fourth-degree (into the rectum) perineal tear in women with a prior extensive laceration.METHODSData were gathered from our computerized perinatal database between January 1990 and December 1994. Women who had two consecutive singleton deliveries were chosen as subjects.RESULTSThe rate of an extensive perineal laceration was greater if a tear had occurred in a previous pregnancy (19 of 178 cases, 10.7% vs. 56% of 1563 cases, 3.6%, odds ratio 3.4. A 95% confidence interval: 1.8-6.4; $p < 0.0001$). A prior tear remained a risk factor after controlling for other variables (epidural analgesia, episiotomy, oxytocin use, operative vaginal delivery, fetal macrosomia).CONCLUSIONA prior third-degree or fourth-degree perineal tear is associated with a 3.4-fold increased risk of a recurrent severe obstetrical laceration.

Database: Medline

Strategy 730646

#	Database	Search term	Results
1	Medline	exp PERINEUM/in	1687
2	Medline	((perineum OR perineal) ADJ2 (trauma OR tear* OR injur* OR lacerat*)).ti,ab	2186
3	Medline	exp EPISIOTOMY/	2093
4	Medline	(Episiotom*).ti,ab	2645
5	Medline	(perineotom*).ti,ab	39
6	Medline	(1 OR 2 OR 3 OR 4 OR 5)	5283
7	Medline	(recurrence).ti,ab	271203
8	Medline	exp RECURRENCE/	178154
9	Medline	(repeat* OR repetition OR subsequent).ti,ab	1018774
10	Medline	(7 OR 8 OR 9)	1396006
11	Medline	(6 AND 10)	358
12	EMBASE	exp "PERINEUM INJURY"/	2682
13	EMBASE	((perineum OR perineal) ADJ2 (trauma OR tear* OR injur* OR lacerat*)).ti,ab	3010
14	EMBASE	exp EPISIOTOMY/	4345
15	EMBASE	(Episiotom*).ti,ab	3707
16	EMBASE	(perineotom*).ti,ab	39
17	EMBASE	(12 OR 13 OR 14 OR 15 OR 16)	7812
18	EMBASE	(recurrence OR repeat* OR	1115839

		repetition).ti,ab	
19	EMBASE	exp "RECURRENT DISEASE"/	172411
20	EMBASE	(subsequent ADJ2 (deliver* OR pregnanc* OR labor OR labour)).ti,ab	8915
21	EMBASE	(multipar*).ti,ab	30919
22	EMBASE	exp MULTIPARA/	6822
23	EMBASE	(18 OR 19 OR 20 OR 21 OR 22)	1262829
24	EMBASE	(17 AND 23)	888
25	CINAHL	exp PERINEUM/in	857
26	CINAHL	((perineum OR perineal) ADJ2 (trauma OR tear* OR injur* OR lacerat*)).ti,ab	931
27	CINAHL	exp EPISIOTOMY/	1139
28	CINAHL	(Episiotom*).ti,ab	1078
29	CINAHL	(perineotom*).ti,ab	5
30	CINAHL	(25 OR 26 OR 27 OR 28 OR 29)	2378
31	CINAHL	(recurrence).ti,ab	44741
32	CINAHL	exp RECURRENCE/	41702
33	CINAHL	(repeat* OR repetition OR subsequent).ti,ab	142023
34	CINAHL	(31 OR 32 OR 33)	213290
35	CINAHL	(30 AND 34)	99