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RECURRENT OBSTETRIC ANAL SPHINCTER INJURIES (OASIS): IS PREDICTION POSSIBLE?

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.

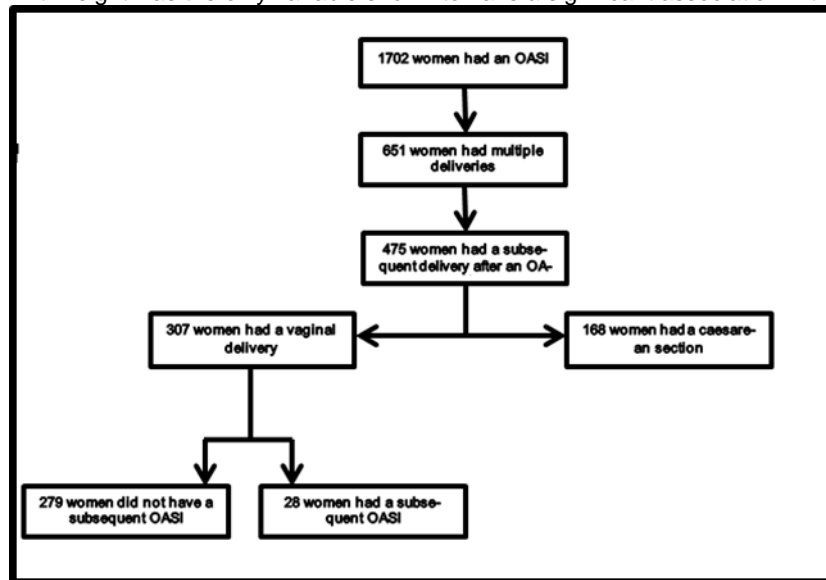
We reviewed a number of factors and their possible predictive role as risk factors for recurrent OASIs including: head circumference, birth weight, BMI, age, ethnicity, mode of delivery, grade of accoucheur, inter-delivery time interval, parity and smoking.

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.

Birthweight was the only variable shown to have a significant association with subsequent OASI in our cohort.



Independent Variable	Odds Ratio	p-value	confidence interval
Head circumference	1.02	0.13	0.99-1.05
Birth weight	2.53	0.02	1.14-5.64
BMI	0.97	0.583	0.89-1.07
Age	1.01	0.66	0.93-1.10
Ethnicity	0.79	0.69	0.25-2.52
Method of delivery	0.69	1.35	0.29-6.25
Who delivered	1.11	0.46	0.84-1.48

Inter-delivery time	0.06	0.66	-0.23-0.36
Parity	0.89	0.86	0.26-3.13
Smoking	1.60	0.46	0.46-5.53

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.

References

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Disclosures

Funding: No funding was involved in the study **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** The study was registered with our institute's audit department (Reg No: 3438). Formal ethical approval was not sought as the study was classified as service evaluation under current UK regulations. **Helsinki not Req'd:** No identifiable data was used **Informed Consent:** No