A Retrospective Study of Obstetric Anal Sphincter Injury (OASIS): Risk Factors, Incidence and Management

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INTRODUCTION
OASIS are a complication of labour that can lead to morbidity of the pelvic floor, and significantly affect quality of life. Various studies have investigated the risk and protective factors for OASIS, however not all associations have been reproducible. The incidence of OASIS has also been increasing over recent years. (1)

AIM
1. Evaluate the demographic and obstetric risk factors for OASIS, including those which are not currently documented.
2. Audit against the standards set out by national guidelines with regards to incidence and compliance of management. (2)
3. Document the time trend in the incidence, management and risk factors for OASIS over a 10 year period.

METHODOLOGY
• Data were collected via our K2 electronic Maternity Record for the years 2001-2011.
• This was analysed to estimate the incidence of OASIS each year, compliance with suture material against guideline recommendations, proportion repaired by different grades of operator, and prescribed analgesia and antibiotics post-operatively.
• Trends were observed using scatter plots and trend lines for all women who delivered vaginally.
• All women who sustained OASIS in this period were assigned to the case group and we undertook a case-control analysis. Women were matched with the OASIS group for age, parity, mode of delivery and gestational age. A total of 2450 women were studied.
• Further data analysis was undertaken using SPSS® software.
• The distributions of continuous variables were explored and then analysed by Mann- Whitney U tests, as outliers were deemed important to associations.
• Categorical and ordinal variables were analysed using Chi-squared testing for associations, and then Phi and Cramer’s V for the strength of this association and correlation between case and control groups.

RESULTS
• A consistently increasing trend in the incidence of OASIS was observed, which was higher than expected (3.6%).
• Intraoperative management was compliant with national guidelines with repair using the recommended suture material (92.7%) and by Registrars or Consultants (92.5%).
• Lower compliance to postoperative management (61% prescribed antibiotics over this time period and 60% analgesia).
• Figure 1 shows the change in time trend of factors, previously positively associated with OASIS, for all vaginal deliveries in our study period. The rate of instrumental delivery has increased over time and epidural use has declined. Mean birth weight also increased until 2006 and then remained steady.
• The mean age was 29.7 years, median parity 0 (i.e. most women were nulliparous) and the majority of deliveries were term for case and control groups.
• In line with other epidemiological studies, statistically significant associations have been found between the association of birth weight (U = 819158.5, z = -3.93, p < 0.0005) and Asian ethnicity (χ² (1) = 40.825, ψ = 0.129, p <0.0005). A non-significant negative correlation with smoking (ψ= -0.029, p = 0.15) may indicate that smokers are less likely to sustain OASIS.

CONCLUSIONS
• Increase in the incidence of OASIS may be due to increased awareness and changing trends in factors associated with OASIS.
• Postoperative management of OASIS may be improved by formal education on management and implementing local protocols. Our findings may propagate prospective studies on postoperative complications.
• Birth weight and Asian ethnicity are important risk factors for OASIS. The non-significant relationship which we found between smoking and OASIS is consistent with previous reports.

REFERENCES