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A COHORT STUDY TO DETERMINE OBSTETRIC RISK FACTORS FOR ANAL INCONTINENCE

Aims of Study

1 To determine the incidence of anal incontinence in a female population after childbirth
2 To determine obstetric risk factors for anal incontinence

Methods

A dataset was formed containing all non-obstetric, non-psychiatric (SMR1) discharge records from all hospitals within the chosen population, of all women who had a diagnosis of anal incontinence between 1981 and 1999. The diagnosis was defined using OPCS4 codes and ICD10 codes and identified women with a discharge diagnosis of anal incontinence as well as those who had a surgical procedure to treat anal incontinence. 12,368 case records were identified in this way.

This file was then linked to the maternity database containing summaries of delivery since 1981,which is recorded in the SMR02 form. We restricted the study population to those women who had their last delivery between 1981 and 1985, thereby allowing a follow up period of fourteen years for presentation of the condition.

Fourteen obstetric variables, as recorded on the SMR02 summary, were subjected to univariate analysis. These variables were maternal age, parity, previous Caesarean Section, singleton/multiple pregnancy, mode of induction, gestation, duration of labour, presentation at delivery, mode of delivery, birthweight, admission to SCBU, APGAR, outcome of baby and maternal height.

Multivariate analysis was applied to those variables proved significant.

Matched control groups were obtained from patients who delivered during the study time interval with no record of anal incontinence.

Results

274 patients who had their last delivery between 1981 and 1985 had a diagnosis of anal incontinence between 1985 and 1999.

The risk of developing anal incontinence within the follow up period for this cohort is 0.175%.
The control group consisted of 156,433 patients, ratio matched cohort: control = 1.12.6
Two variables reached statistical significance, total previous pregnancies and maternal age.

Total previous pregnancies: odds ratio=1.16 for one previous pregnancy (95% CI 0.78-1.73) increasing to 1.94 for four previous pregnancies (95% CI 1.19-3.17).

Patients' age: odds ratio=1.18 for ages 25-29 years (95% CI 0.84-1.67) increasing to 1.96 for >35 years (95% CI 1.19-2.96).

Multivariate analysis showed these variables to be independent.

Contrary to previous studies, mode of delivery did not reach statistical significance. Odds ratio for forceps delivery was 1.6 (95% CI 0.86-2.98).

Conclusions

Obstetric factors such as mode of delivery have been associated with anal incontinence (1,2)
Previous studies have been case control/questionnaire studies or based on assessments of anal sphincter damage or physiology (3,4)

This is the first large scale population based epidemiological study to identify obstetric risk factors for anal

incontinence in women who have been discharged from hospital with a diagnosis of, or treatment for, anal incontinence.

We have shown that patients' age at delivery and total number of pregnancies are significant obstetric risk factors in developing this distressing condition.

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