

THE EFFECT OF PREGNANCY AND VAGINAL DELIVERY ON THE PREVALENCE OF URINARY AND FECAL INCONTINENCE.

Hypothesis/aims of study

To determine the relative effects of pregnancy and vaginal delivery on the prevalence of urinary and fecal incontinence

Study design, materials and methods

Prospective observational multicenter study of women presenting to gyn clinics for routine care. Subjects had data regarding their obstetrical history recorded to include; gravidity, parity, # of vaginal deliveries and weight of the largest infant delivered vaginally. Subjects then completed a questionnaire regarding symptoms of both urinary and fecal incontinence. If they responded in the positive, to the presence of these symptoms, they were further queried if the symptom bothered them. Subjects were considered incontinent of either urine or stool if they responded in the positive to both the presence of the symptom (urinary or fecal incontinence) and that it bothered them. Odds ratios were determined for: parity>0 vs P=0 (subjects who had a term pregnancy vs subjects who never had a term pregnancy) parity >1 and vaginal delivery = 0 versus parity = 0 (subjects who had been pregnant but never had a vaginal delivery versus subjects who had never been pregnant), parity >1 and vaginal delivery >1 versus parity = 0 (subjects who had been pregnant and had at least one vaginal delivery versus subjects who had never been pregnant) and parity >1 and vaginal delivery >1 versus parity >1 and vaginal delivery = 0 (subjects who had been pregnant and had at least one vaginal delivery versus subjects who had been pregnant but never had a vaginal delivery). Odds ratios were also developed for each 10 oz increment increase in fetal weight of infants delivered vaginally.

Results

This study had 1004 subjects enrolled over an 18 month period as part of the POSST project. The mean age was 42.7+/-13.9 (+/-SD) yrs. Racial distribution was 43% Caucasian, 24% African-American, 29% Hispanic, 2% Asian, 2% other. One thousand subjects answered the question regarding urinary incontinence and 237 reported bothersome urinary incontinence. Nine hundred and ninety-nine subjects responded to the fecal incontinence question and 123 reported bothersome fecal incontinence.

Risk factor for urinary incontinence	Odds ratio and 95% CI
P >0 vs. P=0	2.46 (1.53 – 3.95)
P>1 & NVD=0 vs. P=0	2.63 (1.27 – 5.46)
P>1 & NVD>1 vs. P=0	3.02 (1.86 – 4.90)
P>1 & NVD>1 vs. P>1 & NVD=0	1.15 (0.63 – 2.10)
Risk factor for fecal incontinence	Odds ratios with 95% CI
P>0 vs. P=0	2.26 (1.22 – 4.19)
P>1 & NVD=0 vs. P=0	1.27 (0.43 – 3.78)
P>1 & NVD>1 vs. P=0	2.72 (1.45 – 5.10)
P>1 & NVD>1 vs. P>1 & NVD=0	2.14 (0.83 – 5.50)

Interpretation of results

Pregnancy increases the risk of having both urinary and fecal incontinence over no pregnancy. Pregnancy and vaginal delivery further increases the risk of urinary and fecal incontinence over no pregnancy. However, pregnancy and vaginal delivery does not increase the risk of either urinary or fecal incontinence over pregnancy without vaginal delivery.

Concluding message

Pregnancy increases the risk of urinary and fecal incontinence over no pregnancy. Pregnancy with a vaginal delivery further increases the risk of both fecal and urinary incontinence. However, cesarean delivery (or pregnancy with no vaginal delivery) does not lessen the risk of urinary or fecal incontinence over pregnancy with a vaginal delivery. This suggests, in our

population, that pregnancy is the greater risk factor for the presence of fecal and urinary incontinence and not the vaginal delivery process.