

## DOES HYSTERECTOMY CAUSE CONSTIPATION?

### Aims of Study

Hysterectomy may affect micturition, defecation and sexual well-being. With respect to defecation, it has been observed that symptomatic constipation is frequent in women after hysterectomy[1,2]. As prospective studies are lacking, it is unknown whether hysterectomy is a causative factor of constipation. Medical practitioners counselling patients about the possibility that constipation will remain present or develop following information, can not base their information on available literature. We performed a multi-center prospective study to investigate whether hysterectomy causes constipation and to determine which factors predict the persistence or development of constipation in women undergoing hysterectomy.

### Methods

Consecutive patients undergoing hysterectomy for benign disease in 13 teaching and non-teaching hospitals were asked to participate in this study. Patients with symptomatic uterine prolapse were excluded. Participating patients were asked to complete a questionnaire to document the presence and experienced bother of defecation symptoms both before and at three years after hysterectomy. According to the international accepted definition patients were regarded to have constipation in case they reported to have stools less than three times a week and had to strain > 25% of the time to have a bowel movement. Using logistic regression analysis, odds ratios were calculated for variables predicting the persistence and development of constipation at three years after hysterectomy. Variables considered were age, body mass index (BMI), menopausal status, presence of co-morbidity, parity, history of abdominal surgery, surgical approach (vaginal or abdominal), removal of the cervix, maximal diameter of the cervix (cm), descensus of the uterus (cm above or below the hymen) and indication for hysterectomy (menorrhagia, metrorrhagia, abdominal pain, dysmenorrhoe or other). The odds ratios of relevant prognostic factors (i.e.  $p < 0.10$  in the univariate analysis) were adjusted for differences in other prognostic factors in a multivariable logistic regression analysis.

### Results

Of the 388 participating patients, 344 (response rate = 88.7%) patients returned a completed questionnaire at three years after hysterectomy. Before hysterectomy constipation was present in 35 (10.2 %) patients. Of the 309 patients without constipation pre-hysterectomy, 7 (2.3%) reported constipation at three years after hysterectomy. Odds ratios of prognostic factors for the development of constipation are shown in Table 1. Larger uterine size and preservation of the cervix (both intentionally and not intentionally) were statistically significant prognostic factors for the development of constipation after hysterectomy.

**Table 1.** Odds ratios of prognostic factors for the development of constipation.

Prognostic factor	Mono-variate analysis			Multi-variate analysis		
	OR	(95% CI)	p-value	OR	(95% CI)	p-value
Uteral size (per cm)	1.21	(1.06 - 1.37)	< 0.01	1.17	(1.02 - 1.33)	0.02
Preservation of cervix (yes vs no)	7.1	(1.3 - 3.7)	0.02	5.5	(1.0 - 30.5)	0.05
Nulliparous (yes vs no)	4.2	(0.9 - 19.4)	0.07			ns
Uterine descensus (per cm)	0.77	(0.58 - 1.03)	0.08			ns

OR = odds ratio, CI = confidence interval, ns = not significant.

Constipation had persisted at three years after hysterectomy in 16 (45.7%) of the 35 patients. Odds ratios of prognostic factors for the persistence of constipation are shown in Table 2. Uncommon symptoms (i.e. symptoms other than menorrhagia, metrorrhagia, abdominal pain or dysmenorrhoe) as indication for hysterectomy was the most important prognostic factor for the persistence of constipation after hysterectomy. Mono-variate regression analysis showed that younger age and uterine descensus were also prognostic factors for the persistence of constipation.

**Table 2.** Odds ratios of prognostic factors for the persistence of constipation.

Prognostic factor	Mono-variate analysis			Multi-variate analysis		
	OR	(95% CI)	p-value	OR	(95% CI)	p-value
Indication for hysterectomy is an uncommon reason* (yes vs no)	1.1	(1.0 - 1.3)	0.05	1.1	(1.0 - 1.3)	0.05
Age (per year)	0.92	(0.85 - 1.01)	0.07			
Uterine descensus (per cm)	1.21	(1.01 - 1.46)	0.05			

OR = odds ratio, CI = confidence interval, ns = not significant.

\* Indication for hysterectomy is not menorrhagia, metroragia, abdominal pain or dysmenorrhoe.

### **Conclusions**

Hysterectomy is not a causal factor of constipation. However, constipation may develop after hysterectomy, especially in those women who have a larger uteral size and in whom the cervix is (intentionally or not) preserved. In about half of the women undergoing hysterectomy constipation had disappeared at three year after surgery. Especially those women who underwent hysterectomy for different reasons from menorrhagia, metroragia, abdominal pain or dysmenorrhoe, the risk on persistence of constipation appeared to be present.

### **References**

1. Heaton KW, Parker D, Cripps H. Bowel function and irritable bowel symptoms after hysterectomy and cholecystectomy-a population based study. *Gut* 1993; **34**: 1108-11.
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3. Drossman DA, Sandler RS, McKee DC, Lovitz AJ. Bowel patterns among subjects not seeking health care. Use of a questionnaire to identify a population with bowel function. *Gastroenterology* 1982; **83**: 529-34.