

REMOVING THE CERVIX AT HYSTERECTOMY – AN UNNECESSARY INTERVENTION?

Hypothesis / aims of study

Despite the proliferation in recent years of effective, less invasive and cheaper surgical and non-surgical alternatives to treat menorrhagia, hysterectomy remains the most common major gynaecological operation performed in the United States of America and the United Kingdom. This is because research has shown that it is a definitive cure for a wide range of gynaecological disorders with low peri-operative morbidity, a high satisfaction rate and improved quality of life. An enduring debate in the late 1980's and the 1990's was whether subtotal hysterectomy might confer advantages over the total procedure with regard to sexual, urinary and bowel function, since the former entails minimal neuro-anatomical disruption. A recent Cochrane review¹ found no evidence of any difference between total and subtotal hysterectomy on sexual, urinary and bowel function. However, the reported benefits of hysterectomy to date are based largely on short-term follow-up. The aim of this study was to prospectively evaluate the long-term effects of total abdominal hysterectomy (TAH) and subtotal abdominal hysterectomy (STAH) on bladder, bowel and sexual function, pelvic organ prolapse, psychological status and quality of life (QoL).

Study design, materials and methods

Two hundred and seventy nine women who participated in a previously published^{2,3} randomised, double-blind, multicentre trial comparing TAH and STAH were invited to complete questionnaires used in the previous study to assess urinary, bowel and sexual function, psychological function (General Health Questionnaire-28) and QoL (Short Form-36 questionnaire). Pelvic organ prolapse was assessed using the validated International Continence Society Pelvic Organ Prolapse Quantification system. All women who participated provided written informed consent. Data analysis was undertaken using SPSS V11. Data screening indicated that many variables were skewed. Therefore nonparametric statistics were used to examine differences between groups (Chi Square for categorical data, Mann Whitney for remaining variables). Longitudinal analyses of group differences and changes over time, controlling for confounding variables where necessary, were carried out using ANCOVA if parametric assumptions were fulfilled. Where assumptions were violated, variables were dichotomized and examined using Chi square.

Results

179 women completed the long-term follow-up, which comprised 64% of the original sample. Ninety women in the TAH group and 89 in the STAH group were followed up at a mean of 9±1 years. Both groups were equally matched for age, weight and parity. Table 1, Table 2 and Table 3 show urinary, bowel and sexual function after STAH and TAH. There were no significant differences in quality of life and psychological function between the two groups. Two women in the STAH group were found to have cervical prolapse. None had cervical cancer.

Table 1: Urinary function nine years after hysterectomy

	STAH n (%)	TAH n (%)	Chi Square	
Stress incontinence	53(59.6%)	50(56.2%)	$\chi^2=0.20$	p=.76
Urgency	56(63.6%)	50(58.1%)	$\chi^2=0.55$	p=.53
Frequency of micturition	20(26.7%)	23(29.9%)	$\chi^2=0.19$	p=.72
Nocturia	09(10.7%)	19(23.2%)	$\chi^2=4.59$	p=.03
Strain to void	15 (17%)	16(18.4%)	$\chi^2=0.05$	p=.84
Poor stream	12(13.6%)	13(14.9%)	$\chi^2=0.06$	p=.83
Incomplete emptying	27 (31%)	34(39.5%)	$\chi^2=1.36$	p=.26
Urge incontinence	35(40.7%)	34(39.5%)	$\chi^2=0.02$	p= 1.0
Feelings of prolapse	10(12.8%)	9 (11.4%)	$\chi^2=0.07$	p=.81
Prolapse - stage 1	32(49%)	31 (50%)		
- stage 2	0 4(6.2%)	06 (9.7%)	$\chi^2=0.64$	p=.72

Table 2: Bowel function nine years after hysterectomy

	STAH n (%)	TAH n (%)	Chi Square	
Constipation	16 (20%)	12(14.1%)	$\chi^2=1.01$	p=.407
Strain to empty bowels	13(15.3%)	11(12.4%)	$\chi^2=0.31$	p=.662
Digitation	04 (5.1%)	11(13.6%)	$\chi^2=3.41$	p=.102
Use of laxatives	09(10.5%)	11(12.2%)	$\chi^2=0.13$	p=.814
Urgency of stools	15(17.4%)	19(21.1%)	$\chi^2=0.38$	p=.571
Incontinence of flatus	04 (5.1%)	05 (6%)	$\chi^2=0.05$	p=1.0
Incontinence of stools	01 (1.2%)	02 (2.4%)	$\chi^2=0.29$	p=1.0

Table 3: Sexual function nine years after hysterectomy

	STAH Mean (SD)	TAH Mean (SD)	Mann Whitney Chi Square	
Frequency of intercourse	2.19 (0.95)	1.89 (0.80)	U = 1952.5	p = .04
Reduced intercourse	1.68 (0.66)	1.59 (0.69)	U = 2313.5	p = .54
Sexual desire	2.94 (1.37)	2.89 (1.27)	U = 1977.5	p = .28
Strength of desire	3.06 (1.03)	3.33 (1.08)	U = 2186.5	p = .48
Initiation of intercourse	2.06 (0.7)	1.96 (0.79)	U = 2032	p = .71
Attaining orgasm	2.98 (0.82)	2.70 (0.99)	U = 2077	p = .45
Multiple orgasm	1.89 (0.91)	1.367 (0.85)	U = 2061.5	p = .57
Ease of orgasm	2.77 (0.63)	2.59 (0.78)	U = 2106	p = .50
Relationship with partner	1.45 (0.65)	1.30 (0.55)	U = 2055.5	p = .50

Deep dyspareunia	14 (20.3%)	20 (31.3%)	$\chi^2=2.10$ df 1, p= .16
Superficial dyspareunia	11 (15.7%)	13 (20.3%)	$\chi^2=0.48$ df 1, p= .50
Vaginal lubrication	43 (62.3%)	34 (53.1%)	$\chi^2=1.15$ df 1, p= .29

Urinary and bowel function variables did not change significantly over time for women in both groups. Compared to before surgery women in the STAH and TAH group reported various changes in sexual function. A significant decrease in frequency of intercourse ($p<.001$), frequency of sexual desire ($p<.001$), ease of attaining orgasm ($p<.001$) and strength of desire ($p=.006$) was noted. Analyses examining whether reduced sexual function was due to age revealed that being older was only associated with less frequent orgasms (Pearsons r -.23, $p=.009$). Similar analyses of the effect of bilateral salpingo-oophorectomy (BSO) found that women who had a BSO reported less frequent intercourse ($U = 1855$, $p=.019$), less sexual desire ($U = 1497$, $p=.002$), less initiation of intercourse ($U = 1682.5$, $p=.046$), less orgasms ($U = 1616$, $p=.005$), and less strength of sexual desire ($U = 1598.5$, $p=.001$).

Interpretation of results

Similar to the findings at one year follow-up^{1,2}, this study demonstrates that there is no major difference in urinary, bowel, sexual function, mental health or QoL between TAH and STAH on long term follow-up. Furthermore contrary to the findings of a previous retrospective study, this study shows that women who have a STAH are not at increased risk of cervicovaginal prolapse. This therefore provides convincing evidence that while removal of the cervix may not be detrimental, conservation confers no benefit. While urinary and bowel function were not altered on long term follow-up, sexual function deteriorated after hysterectomy irrespective of the type of hysterectomy. As age only had an effect on frequency of orgasms, it could be a reflection of the climacteric. There was a higher incidence of nocturia in the TAH group but as there is no plausible explanation and it could be a chance finding.

Concluding message

This is the largest randomised study with the longest follow-up to date demonstrating no major differences in urinary, bowel, sexual function, quality of life and psychological function between women who had TAH and STAH. Women who have a subtotal hysterectomy are not at increased risk of pelvic organ prolapse or cervical cancer. This suggests that the cervix does not need to be routinely removed at hysterectomy unless it is the patient's choice.

References

1. Total versus subtotal hysterectomy for benign gynaecological conditions. Cochrane database of Systematic Reviews (2006) Issue 2. Art No:CD004993.
2. Outcomes after total and subtotal hysterectomy New Engl J Med (2002)347;1318-1325.
3. Hysterectomy improves quality of life and decreases psychiatric symptoms: a prospective and randomised comparison of total versus subtotal hysterectomy. BJOG (2004)111;1115-1120.

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Is this a clinical trial?	Yes
Is this study registered in a public clinical trials registry?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	Yes
Specify Name of Ethics Committee	St. George's Hospital, Wandsworth
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	Yes