

IMPACT OF ROBOTIC OR LAPAROSCOPIC MYOMECTOMY ON FEMALE LOWER URINARY TRACT SYMPTOMS AND SEXUAL FUNCTION: A PRELIMINARY REPORT

Hypothesis / aims of study

It has been known that lower urinary tract symptoms (LUTS) are prevalent in women with symptomatic myomas [1]. The purpose of this study was to evaluate the impact of robotic or laparoscopic myomectomy on female LUTS and sexual function.

Study design, materials and methods

All women with symptomatic myomas, who underwent surgical intervention (robotic or laparoscopic myomectomy) were invited to participate in the study. Enrolled women had to complete 4 questionnaires in Chinese version before and 3 months after the surgery, namely the Overactive Bladder Symptom Score (OABSS), Urinary Distress Inventory-6 (UDI-6), Incontinence Impact Questionnaire-7 (IIQ-7) and Female Sexual Function Index (FSFI).

Results

A total of 26 women, including 8 women underwent robotic myomectomy and the other 18 women received laparoscopic myomectomy, were included in the study (Table 1). The severity of stress urinary incontinence is well correlated to the diameter of myoma (Table 2). In addition, significant improvements of UDI-6 and IIQ-7 scores were noted after robotic or laparoscopic myomectomy, especially for question 4 of IIQ-7 (Table 3). Women also reported a tendency to less dyspareunia postoperatively (Table 3). There were no between-group differences in the baseline data and postoperative changes of the scores of OABSS, UDI-6, IIQ-7 and FSFI (Table 4 & 5). However, six patients became sexual active after surgeries ($p=0.01$, McNemar's test).

Interpretation of results

Women are more comfortable travelling for longer distance after robotic or laparoscopic myomectomy. Anatomical derangement in uterus-vagina relation, diminished pelvic cavity and compression of uterovaginal plexus are plausible causes of pelvic pain [2]. Women who underwent robotic or laparoscopic myomectomy might become sexual active after surgery and have a tendency to experience less pain during penetration.

Concluding message

Robotic or laparoscopic myomectomy alleviates lower urinary tract symptoms. These findings may serve as an additional assurance to the improvement of life quality in gynecologic patients.

Table 1. Baseline data of women who underwent robotic myomectomy or laparoscopic myomectomy (n=26)

Variables	Values
Age (years)	44.3±6.1
Body mass index (kg/m ²)	23.6±3.6
Parity	1.4±1.3
Diabetes	1 (4)
Hypertension	4 (15)
Robotic myomectomy	8 (31)
Laparoscopic myomectomy	18 (69)
The largest diameter of myoma (cm)	7.9±2.3

The values are expressed as means ± the standard deviations or as numbers (percentage).

Table 2. Correlation between clinical variables and the largest diameter of the myoma in women who underwent robotic or laparoscopic myomectomy (n=26)

Variables	Spearman's Rho	P
OABSS	0.15	0.48
UDI-6	0.19	0.36
UDI-6 Q3	0.55	0.004
IIQ-7	0.23	0.28
FSFI	-0.8	0.77
Desire	-0.32	0.21
Arousal	-0.33	0.19
Lubrication	-0.28	0.28
Orgasm	0.17	0.52
Satisfaction	0.03	0.91
Pain	0.05	0.84

For OABSS, UDI-6 and IIQ-7 questionnaires, only scores with $P<0.05$ are shown. FSFI = Female Sexual Function Index, IIQ-7 = Incontinence Impact Questionnaire-7, OABSS = Overactive Bladder Symptoms Score Questionnaire, Q3 = question 3, UDI-6 = Urinary Distress Inventory-6 Questionnaire.

Table 3. Comparison of baseline and postoperative changes of women who underwent robotic myomectomy or laparoscopic myomectomy (n=26)

Variables	Baseline values	Post-operative values	†p
OABSS	2.0±1.9	2.0±1.8	0.98
UDI-6	2.0±1.7	1.2±1.2	0.04
IIQ-7	1.1±1.6	0.5±1.8	0.04
IIQ-7 Q4	0.3±0.5	0.1±0.3	0.03
Sexual active	16 (62)	22 (85)	0.01
FSFI	19.2±6.7	20.6±5.1	0.59
Desire	2.2±1.1	2.4±0.9	0.36
Arousal	2.9±1.3	2.9±1.4	0.89
Lubrication	3.6±1.2	3.7±1.2	0.85
Orgasm	3.4±1.4	3.3±1.4	0.80
Satisfaction	3.9±1.2	4.1±0.9	0.50
Pain	3.6±1.5	4.4±0.9	0.07

For OABSS, UDI-6 and IIQ-7 questionnaires, only scores with P<0.05 are shown. The values are expressed as means ± the standard deviations or number (percentage). Q1 = question 1, Q4 = question 4, Q6 = question 6, the other abbreviations are as Table 2.

† The p values were calculated using the Wilcoxon signed-rank test.

Table 4. Comparison of baseline data of women who underwent robotic myomectomy (n=8) versus laparoscopic myomectomy (n=18)

Variables	Robot (n=8)	Laparoscopy (n=18)	†p
Age (years)	42.0±6.1	45.4±5.9	0.25
Body mass index (kg/m ²)	23.6±4.2	23.6±3.4	0.98
Parity	1.0±1.1	1.6±1.4	0.24
Diabetes	0 (0)	1 (6)	1.00
Hypertension	1 (13)	3 (17)	1.00
The largest diameter of myoma (cm)	8.9±2.2	7.5±2.2	0.16

The values are expressed as means ± the standard deviations or as numbers (percentage).

† The p values were calculated using the Wilcoxon ranksum test.

Table 5. Comparison of changes from baseline of women who underwent robotic myomectomy (n=8) versus laparoscopic myomectomy (n=18)

Variables	Robot (n=8)	Laparoscopy (n=18)	†p
OABSS	0.3±2.6	-0.1±2.2	0.95
UDI-6	-1.1±2.0	-0.6±1.2	0.49
IIQ-7	-0.8±1.3	-0.5±2.0	0.59
FSFI	-1.4±5.9	0.9±3.4	0.23
Desire	0.1±0.8	0.1±0.6	0.59
Arousal	-0.5±1.1	-0.4±1.3	0.71
Lubrication	-0.7±1.6	0.1±0.8	0.31
Orgasm	-0.8±1.6	-0.3±1.7	0.54
Satisfaction	-0.3±1.0	-0.4±1.9	0.62
Pain	0.8±1.5	0.4±0.8	0.91

For OABSS, UDI-6 and IIQ-7 questionnaires, only scores with P<0.10 were shown. The abbreviations are as Table 2.

† The p values were calculated using the Wilcoxon ranksum test.

References

1. Parker-Autry C, Harvie H, Arya LA, Northington GM. Lower urinary tract symptoms in patients with uterine fibroids: association with fibroid location and uterine volume. *Female Pelvic Med Reconstr Surg* 2011;17:91-6.
2. Ertunc D, Uzun R, Tok EC, Doruk A, Dilek S. The effect of myoma uteri and myomectomy on sexual function. *J Sex Med.* 2009;6:1032-8.

Disclosures

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