

# Abdominal myomectomy versus abdominal hysterectomy for symptomatic and big uterine fibroids

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## ABSTRACT

**Objective:** To compare abdominal myomectomy with abdominal hysterectomy in women with big and symptomatic uterine fibroids.

**Methods:** The hospital records at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia were reviewed to identify women who underwent abdominal myomectomy or abdominal hysterectomy between 1989 and 1999. Inclusion criteria were the presence of symptoms and size of the uterus equaling that of 12 weeks gestation or more. Women who underwent myomectomy as a treatment of infertility were excluded.

**Results:** During the study period, 111 women met the inclusion criteria. Thirty-eight women underwent abdominal myomectomy and 73 women underwent abdominal hysterectomy. Forty women were excluded because of myomectomy for infertility. Abdominal myomectomy was successfully performed in all women for whom it was scheduled. Hysterectomy, internal iliac ligation, or other procedures were not necessary to control the bleeding. The primary indication for myomectomy was abnormal vaginal bleeding in 23 women and

pelviabdominal mass in 15 women compared to 6 women and 67 women in the hysterectomy group. There were statistically significant differences in the mean age and parity ( $p$  value 0.01 and  $<0.001$ ) between women who underwent abdominal myomectomy and abdominal hysterectomy. The uterine size clinically (mean  $\pm$  standard deviation), size of largest myoma by ultrasonography, and from histopathology reports were  $15.4 \pm 3.8$ ,  $11.8 \pm 2.8$ , and  $13.6 \pm 3.2$  compared to  $17.9 \pm 4.4$ ,  $16.9 \pm 4.2$ , and  $13.8 \pm 3.7$  ( $p$  values not statistically significant). Similarly, there were no statistically significant differences in the pre- and postoperative hemoglobin, estimated blood loss, rate of blood transfusion, operative time, and numbers of days in hospital.

**Conclusion:** Abdominal myomectomy for big and symptomatic uterine fibroids carries similar risks to abdominal hysterectomy.

**Keywords:** Abdominal myomectomy, abdominal hysterectomy, symptomatic, uterine fibroids.

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Leiomyomata are the most common tumors in women with an incidence of 20-25% in women over 30 years.<sup>1,2</sup> Treatment strategies include expectant management, medical treatment, and surgical intervention. Surgical intervention is indicated for women with myoma-related symptoms or uterine size of 12 weeks gestation, or both.<sup>3</sup>

Women younger than 40 years who want to preserve their reproductive potential are candidates for myomectomy; whereas older women are candidates for hysterectomy. Traditionally, women with symptomatic and big uterine fibroids are offered abdominal hysterectomy rather than abdominal myomectomy.<sup>4</sup> This is because abdominal

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myomectomy carries higher rates of mortality and morbidity, possibility of recurrence, and further surgery. However, recent evidence, suggests that abdominal myomectomy and hysterectomy are equivalent procedures for uterine fibroids.<sup>5,6</sup> The aim of this study was to compare abdominal myomectomy with abdominal hysterectomy in women with big and symptomatic uterine fibroids.

**Methods.** The hospital records at King Abdulaziz University Hospital, Jeddah, Kingdom of Saudi Arabia were retrospectively reviewed to identify women who underwent abdominal myomectomy or abdominal hysterectomy for uterine fibroids between 1989 and 1999. Inclusion criteria were the presence of symptoms and size of the uterus equal to that of 12 weeks of gestation or more. Exclusion criteria were; 1) Women who underwent abdominal myomectomy as a treatment for infertility, 2) vaginal or hysteroscopic myomectomy, 3) previous myomectomy, and 4) pregnancy. All women were studied by detailed history and physical examination, routine investigations, and abdominal or transvaginal ultrasonography, or both. Counseling was given regarding the need for hysterectomy while attempting abdominal hysterectomy. All procedures were performed under general anesthesia with endotracheal intubation. Abdominal myomectomy was performed

as described previously.<sup>7</sup> Preoperative antibiotic prophylaxis was not used routinely. Data collection was made from the charts of the women. The size of the myoma was determined by the clinical examination, report of pelvic ultrasonography, and report of the final pathology (largest diameter of the largest fibroid). The operative time, from skin incision to closure, and estimated blood loss were obtained from the operative records. Statistical analysis was performed using SPSS-PC for windows; version 6.1. Student t-test, Chi square, and Fisher's exact test were used as appropriate. A P-value of  $\leq 0.05$  was considered statistically significant.

**Results.** During the study period, 111 women met the inclusion criteria. Thirty-eight women underwent abdominal myomectomy and 73 women underwent abdominal hysterectomy. Forty women were excluded because of myomectomy for infertility. Abdominal myomectomy was successfully performed in all women for whom it was scheduled. Hysterectomy, internal iliac ligation, or other procedures were not necessary to control the bleeding. The primary indication for myomectomy was abnormal vaginal bleeding in 23 women and pelviabdominal mass in 15 women compared to 6 women and 67 women in the hysterectomy group. There were statistically significant differences in the

**Table 1** - Characteristics and surgical outcome of women who underwent abdominal myomectomy and women who underwent abdominal hysterectomy.

Variable	Myomectomy (n = 38)	Hysterectomy (n = 73)	P - value
Age	32.7 ± 5.70	39.5 ± 8.60	0.01
Parity	0.20 ± 0.60	2.30 ± 2.50	< 0.001
Height (cm)	156 ± 6.20	155 ± 5.60	NS
Weight (kg)	67.9 ± 11.9	66.9 ± 12.2	NS
Uterine size	15.4 ± 3.80	17.9 ± 4.40	NS
Size by ultrasound	11.8 ± 2.80	16.9 ± 4.20	NS
Size by histopathology	13.6 ± 3.20	13.8 ± 3.7	NS
Preoperative hemoglobin	11.2 ± 2.20	11.3 ± 2.1	NS
Postoperative hemoglobin	9.90 ± 1.70	9.90 ± 1.30	NS
Blood loss	709.7 ± 456.5	633.8 ± 695.6	NS
Intraoperative transfusion	0.51 ± 1.20	0.72 ± 2.67	NS
Postoperative transfusion	1.40 ± 0.90	1.30 ± 0.90	NS
Operative time (min)	103 ± 48	121 ± 50	NS
Hospital stay	5.80 ± 3	7.30 ± 3.20	NS

n - number; min - minutes; NS - not significant; Data is presented as mean ± standard deviation (SD)

mean age and parity (p value 0.01 and <0.001) between women who underwent abdominal myomectomy and abdominal hysterectomy. The uterine size clinically (mean  $\pm$  standard deviation), size of largest myoma by ultrasonography, and from histopathology report were  $15.4 \pm 3.8$ ,  $11.8 \pm 2.8$ , and  $13.6 \pm 3.2$  compared to  $17.9 \pm 4.4$ ,  $16.9 \pm 4.2$ , and  $13.8 \pm 3.7$  (p values not statistically significant). Similarly, there were no statistically significant differences in the pre- and postoperative hemoglobin, estimated blood loss, rate of blood transfusion, operative time, and numbers of days in hospital (Table 1).

**Discussion.** Because of the relative higher mortality, morbidity and recurrence rates, hysterectomy was preferred to myomectomy as a surgical option to treat uterine fibroids. The recurrence rate has been quoted as 30%. However, Butram and Reiter, in over 3000 myomectomies reported a 15% recurrence rate and 10% retreatment rate.<sup>8</sup> Randomized clinical trials between myomectomy and hysterectomy are needed to answer the question of what is better when surgery is contemplated and preservation of fertility potential is not an issue. To the best of our knowledge, such trials are lacking. There are case series documenting the safety of myomectomy using historical hysterectomy outcome data as control.<sup>5,6</sup>

Iverson et al, in 1996, reported a case-controlled study comparing abdominal myomectomy to abdominal hysterectomy.<sup>9</sup> The uterine size was 15.2 weeks in the hysterectomy group and 11.5 weeks in the myomectomy group (mean difference 4%, 95% CI of difference 2-5.4). There was no difference in

estimated blood loss, transfusion rate, and febrile morbidity. There were more visceral injuries in the hysterectomy group. Based upon the findings, they concluded "myomectomy compares favorably to hysterectomy." In our study the uterine size in the hysterectomy and myomectomy groups were bigger than the study by Iverson et al.<sup>9</sup> Nevertheless, there was no difference in the morbidity. Therefore, abdominal myomectomy for big and symptomatic uterine fibroids carries similar risks to abdominal hysterectomy.

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