



Brief communication

Uterine fibroid embolization compared with myomectomy

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Uterine fibroid embolization (UFE) was first described in 1995 as a less morbid alternative to myomectomy for the treatment of myoma [1]. Myomectomy is known to have significant rates of morbidity due to transfusion, infection, and other surgical complications [2]. To the best of our knowledge, no study has compared the hospital course for patients undergoing these procedures during the same time period. All patients who underwent either elective myomectomy or uterine artery embolization for the treatment of symptomatic myomata in 1999, were studied at a community hospital. Retrospective chart analysis was performed. Notice was taken of any type of morbidity.

Sixteen patients were admitted for elective myomectomy during 1999 (see Table 1). Different

surgeons were responsible for the care of each patient. The mean length of stay was 3.6 days (range 2–7 days). Five patients suffered temperature elevation above 100.6°F (31%). These patients were treated with antibiotics as presumed endometritis pending culture results. Two patients were transferred during or after surgery for transfusion (12.5%). The number of units of blood administered was 1 and 2 units of packed red blood cells, respectively. Two patients suffered post-operative ileus (12.5%). There were single incidents (6.25%) of the following complications: phlebitis; small bowel laceration; and nausea.

During the same time period, 32 patients were admitted for UFE. All of the procedures were performed by the same physician. The average length of stay for UFE patients was 1.1 days (range 1–2 days). Temperature elevation above 100.6°F was recorded in seven patients (22%). All patients undergoing UFE received prophylactic intravenous antibiotic therapy; 2 g of ancef on

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Table 1

Complications	Comparison				P-Value
	Myomectomy (<i>n</i> = 16)		UFE (<i>n</i> = 32)		
	Number of patients	Percentage (%)	Number of patients	Percentage (%)	
Blood transfusion	2	12.50	0	0.00	0.031 ^a
Phlebitis	1	6.25	0	0.00	0.155
Small bowel laceration	1	6.25	0	0.00	0.155
Nausea	1	6.25	0	0.00	0.155
Temperature elevation	5	31.25	7	22	0.264
Ileus	2	12.50	0	0.00	0.031 ^a

^aStatistically significant.

call to operating room, and two more doses 8 h apart, postprocedure. No patients received further treatment for transient temperature. None of the embolization patients received transfusion or experienced any post-operative complication. All embolization patients were discharged on oral analgesics.

The numbers in this study are small. Nonetheless, the average stay for the myomectomy patients is similar to that noted in other reports. There is a significantly shorter stay for UFE ($P < 0.0001$) [3]. Thus, we expect our findings to have a broader significance. Temperature elevation was seen in both myomectomy (31%) and embolization groups (22%). All patients with elevated temperatures were given additional intravenous antibiotics for presumed endometritis. In the embolization group, no patient was treated with additional antibiotic therapy. Blood and urine cultures were negative in all patients; and imaging of the pelvis did not demonstrate average abscess. Postembolization syndrome has been described, which includes pain and temperature elevation [2]. Embolization patients were felt to be suffering from this syndrome; their discharge was not delayed. No patient developed sepsis after discharge.

Transfusion of blood products varied between the myomectomy group (12.5%) with no transfusions in patients undergoing elective embolization. Blood transfusion carries with it the risk of transfusion reaction, hepatitis, conversion to positive HIV status, and auto immune deficiency syn-

drome (AIDS). We decided to compare our UFE group to those undergoing abdominal myomectomy, since both procedures spare the uterus. However, hysterectomy, the other surgical treatment for myomata, has also a known risk for transfusion [4].

The myomectomy group of patients also experienced individual complications of lacerated small bowel, phlebitis, and two incidences of ileus. Taken together, these miscellaneous complications give a rate of 25%, an additional risk group not experienced by embolization patients.

Both groups of patients experienced pain after their procedures. The transition to oral analgesics was complete in all UFE patients prior to discharge, usually on the first day in hospital. Pain control was not analyzed in this study.

Myomectomy patients experienced a significantly longer length of stay, higher rate of blood transfusion, and other complications compared to elective UFE patients. Both groups, however, experienced similar temperature elevations. This pyrexia did not impact on additional hospital time or treatment in the embolization group. We expect these statistics to apply to larger populations based on published studies.

Our experience of diminished morbidity with embolization is comparable to other published abstracts [5].

References

- [1] Ravina JH, Aymard A, Ciraru-Vigneron N, Ledreff O,

- Merland JJ, Bouret JM, Houdart E. Arterial embolisation to treat uterine myomata. *Lancet* 1995;346:671–672.
- [2] Boyd ME. Myomectomy. *Can J Surg* 1986;29(3):161–163.
- [3] Davies A, Hart R, Magos AL. The excision of uterine fibroids by vaginal myomectomy: a prospective study. *Fertil Steril* 1999;71(5):961–964.
- [4] Takamizawa S, Minakami H, Usui R, Noguchi S, Ohwada M, Suzuki M, Sato I. Risks of complication and uterine malignancies in women undergoing hysterectomy for presumed benign leiomyomas. *Gynecol Obstet Invest* 1999;48(3):193–196.
- [5] Hwang GL, Razavi MK, Chen BH. A single-center study comparing abdominal myomectomy with uterine artery embolization for treatment of myomas. *Obstet Gynecol* 2001;97(4 Suppl 1):S7.