

# Symptoms, Not Size, Drive More Fibroid Surgeries

*Women cite heavy bleeding and desire for pregnancy as most common reasons for elective operations.*

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BETHESDA, MD. — Large fibroids appear to grow faster than smaller fibroids, but symptoms, rather than growth rate, spur women to surgery.

A preliminary analysis of data from 120 women in the Fibroid Growth Study suggests that large fibroids (greater than 50 cm<sup>3</sup>) and medium fibroids (7 to 50 cm<sup>3</sup>), showed a significantly greater increase in size over 1 year, compared with small fibroids (less than 7 cm<sup>3</sup>).

"Most women have fibroids, but there is a subset of women that are symptomatic," Barbara J. Davis, Ph.D., said at an international conference on uterine leiomyoma research sponsored by the National Institutes of Health.

Data on the factors that cause fibroids to grow and become clinically symptomatic are limited. "Our hypothesis was that fibroids are heterogenous and that growing tumors will have different cellular and molecular characteristics than non-growing tumors," said Dr. Davis, formerly chief of the Laboratory of Women's Health at the National Institute of Environmental Health Sciences and now a principal scientist at AstraZeneca.

She and her associates sought to compare leiomyoma growth over time as a function of the number and location of the tumors.

To describe relationships between growth, clinical symptoms, and outcome, the investigators studied women at high risk for hysterectomy or myectomy.

The study results also indicated that intramural fibroids appeared to grow more slowly than did submucosal fibroids, fibroid growth might depend on the accumulation of fibrous tissue, and race had no effect on growth rate.

The study, funded by the National Institute of Environmental Health Sciences and

the National Center on Minority Health and Health Disparities, included clinically symptomatic, premenopausal women with large uteri—the size of 12 weeks' gestation—who had tumors of at least 2 cm in diameter, confirmed by ultrasound at baseline. Approximately 48% of the women were black and 41% were white.

The women had MRIs at baseline, 3 months, 6 months, and 1 year. They also underwent physicals, completed extensive medical history forms, donated blood and urine, and participated in monthly questionnaires via a 20-minute phone interview.

Women who opted for surgery donated their fibroid tissues to the study investigators and had a presurgical MRI to map the tumors for the surgeon so they could be identified by type and location.

A total of 31 women had either a hysterectomy or myomectomy during the course of the study. The average age of the surgery patients was slightly younger than the overall average (37.8 years vs. 39 years).

Overall, 1,076 fibroid volumes were calculated, including data from 52 women who completed all four MRIs—16 women who had surgery and 36 women who did not have surgery. The investigators used a computer program to overlay MRI images at different times and determine the growth rates.

In this preliminary analysis growth rate, defined by a change in volume, was mostly a function of location and other factors.

"We were surprised that there were not significant differences in the rate of growth between women of different race or ethnicity," Dr. Davis said. The difference in the prevalence of fibroids between blacks and whites appears not to be caused by tumors growing faster in blacks.

"We did find that size was a factor in determining rates of growth," she noted. The investigators were surprised that large and medium fibroids grew at a faster rate

than small ones. "We thought that small tumors would be the fast-growing ones, and we thought we might find some that shrank, but we didn't," Dr. Davis said. In fact, all the fibroids grew to some extent.

Intramural fibroid growth was slower than that of subserosal fibroids. However, growth rates between intramural vs. submucosal and between submucosal vs. subserosal were not significantly different.

As for the impact of growth rates on clinical outcomes, there were no significant differences between patients who had surgery and those who did not. "That was a surprise to us," Dr. Davis said. "We wondered why the women were going to surgery."

The answer is their symptoms. Symptom severity scores related to bleeding in surgery patients were almost double those of nonsurgery patients. Similarly, there was a significant difference in reported pain before and after surgery among surgery patients, compared with pain scores of nonsurgery patients.

Although the clinical symptomology differed between women who chose surgery

and those who did not, the fibroid growth rates appeared similar in both groups. Dr. Davis noted the investigators have yet to review the impact of number of tumors on outcome. The total number of fibroids per woman ranged from 1 to 11.

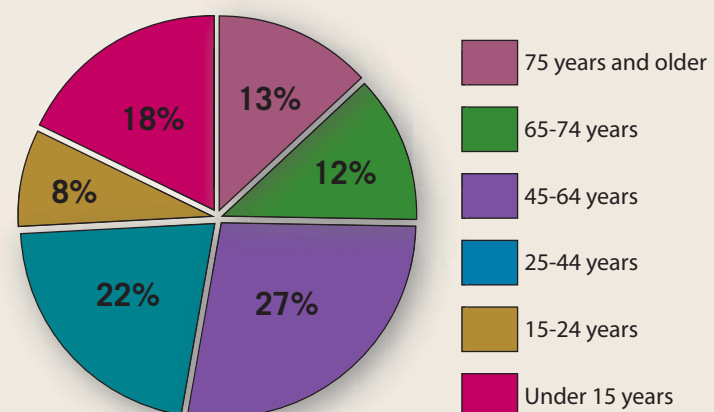
The most common reasons for choosing surgery were to reduce heavy bleeding (40%) and to attempt pregnancy (20%).

The investigators found a greater proportion of fibrous tissues, compared with smooth tissues, in the large tumors than in smaller tumors. The large tumors were the fastest growing, suggesting that connective tissue contributes to tumor growth rather than regression. The vascularity varied as well—the fibroids had fewer blood vessels compared with normal tissue, but the fibroid tissue bled more. Larger fibroids had a larger total area of vascularity, but the smaller fibroids had a larger cross-section of blood vessels.

Ultimately, these results and future analyses might help physicians develop a model that they can use to predict fibroid growth over time, Dr. Davis noted. ■

## DATA WATCH

### Distribution of Office Visits by Age, 2002



Note: Based on an estimated 890 million office visits.  
Source: Centers for Disease Control and Prevention

KEVIN FOLEY, RESEARCH/JULIE KELLER, DESIGN

## Dissatisfaction With Health Predicts Hysterectomy

BETHESDA, MD. — Persistence of symptoms and dissatisfaction with their health are significant predictors of hysterectomy in women with fibroids.

A total of 633 ethnically diverse women with fibroids who sought care were followed for 2 years. They completed questionnaires about quality of life and their interest in a hysterectomy, investigators wrote in a poster presented at an international conference on uterine leiomyoma research sponsored by the National Institutes of Health.

A total of 58 women had undergone a hysterectomy by the end of 2 years. Overall, baseline dissatisfaction with health and persistence of symptoms were highly predictive of hysterectomy in a multivariate analysis, with odds ratios of 2.54 and 3.11, respectively.

The most frequently reported symptoms were bleeding (58%), pressure (24%), and pain (19%), said Miriam Kuppermann, Ph.D., and her associates at the University of California, San Francisco.

The women reported a variety of non-surgical treatments before entering the study, including ibuprofen (70%), oral contraceptives (39%), narcotics (31%), progestins (33%), herbs (34%), and acupuncture (15%). Prior surgical interventions included dilation and curettage (23%) and myomectomy (8%).

At baseline, 43% of the women said they felt their pelvic problems remained unresolved, and 13% were "mostly" or "very" dissatisfied with their health. In addition, 29% reported that pelvic problems interfered "a lot" with their sex lives. ■

## Heavy Bleeding Not Tied to Pelvic Pain in Women With Fibroids

BETHESDA, MD. — Heavy bleeding in women with fibroids was significantly associated with increased fibroid volume but not pelvic pain, according to Kristen Kjerulff, Ph.D., of Pennsylvania State University, and colleagues.

Associations between fibroid characteristics—such as size, number, and location—and the severity of symptoms—such as bleeding, bloating, and pelvic pain—have not been well researched, the investigators wrote in a poster presented at an international conference on uterine leiomyoma research sponsored by the National Institutes of Health.

In a linear regression analysis of 714 premenopausal women with fibroids, the number of days of heavy bleeding

was significantly associated with increased uterine volume but not with pelvic pain.

In addition, intramural fibroids were associated with both excessive bleeding and pelvic pain; submucosal fibroids were associated with excessive bleeding but not with pelvic pain or discomfort.

The presence of at least seven fibroids was significantly associated with reports of frequent abdominal bloating.

The women were interviewed regarding risk factors, symptom severity, and other quality of life measures. Assessment of fibroids was conducted with transvaginal ultrasound for non-hysterectomy patients and pathology for hysterectomy patients. ■