Treatment Options for Uterine Fibroids

Opportunity Snapshot

As part of PCORI's effort to investigate and fund useful, impactful research on critical patient-centered health and healthcare issues, we are asking the public to provide us with questions of personal importance regarding uterine fibroid treatments among reproductive-age women. We would like your input on which questions remain unanswered, which treatments should be compared, and which critical patient-centered outcomes should be addressed. Our objective is to identify those questions that, if answered, would contribute the most to helping patients affected by uterine fibroids make better-informed health and healthcare choices, and improve outcomes.

Overview

Noncancerous tumors called uterine fibroids (leoimyomata) commonly develop in the female reproductive organ (the uterus). Uterine fibroids affect as many as one in five women during their childbearing years. Risk increases with age and is higher among African Americans. Often, there are no symptoms associated with uterine fibroids. In some cases, affected women have symptoms such as pain, cramping, heavy menstrual bleeding, or reproductive complications (such as infertility or miscarriage), any of which may require additional treatment. Such therapies can be expensive and may result in the removal of the uterus. It is unclear whether certain treatment strategies are more effective than others in managing symptoms and addressing patient preferences for reproductive options. As a result, patients and their clinicians often must decide on a plan of action without strong scientific evidence to guide them. Due to the complexity of treatment options, strong evidence-based studies can help women target specific treatment options that will effectively manage their symptoms.

Background

Uterine fibroids are the most common gynecological condition, with the incidence highest among women aged 30 to 40 years. Cumulative incidence approaches 70 percent among white women by age 50 years and is even higher among African Americans.[1] Although fibroids are benign and usually asymptomatic, they can cause pain, heavy menstrual bleeding, and anemia; they are associated with a range of adverse reproductive outcomes, including infertility, miscarriage, preterm birth, and cesarean delivery.

Most women who have uterine fibroids will not experience symptoms severe enough to seek treatment, but for those who do, uterine fibroid disease poses a significant burden. Treatment options include traditional and minimally invasive surgery, and hormonal therapies or other medications. Surgical treatments such as a myomectomy or hysterectomy result in the removal of the fibroid or entire uterus. Sometimes minimally invasive surgery can be done laparoscopically (with a camera) or by ultrasound destruction of the blood vessels that help the fibroid grow. Hormonal therapy is often combined with surgery to provide temporary or short-term relief of symptoms. Due to the complexity of treatment options, further research is needed to help women target specific treatment options that can effectively manage their symptoms. Multiple literature reviews have concluded that there are substantial gaps in information available to address patient clinician decision making and treatment selection.

Treatment options for symptomatic uterine fibroids include watchful waiting and medical treatments, such as hormonal therapies, oral contraceptives, and use of nonsteroidal anti-inflammatory drugs (NSAIDS). There also are a number of procedural treatments available, ranging from surgical or incisional treatments, such as hysterectomy or myomectomy, to nonsurgical (also called non-incisional or minimally invasive) approaches, such as uterine artery embolization and magnetic resonance image-guided focused ultrasound. Short-term medical treatment with hormonal therapy, such as gonadotropin-releasing hormone (GnRH) agonists, is effective for reducing fibroid size prior to surgery and for reducing menstrual blood loss to provide temporary symptom relief. However, the adverse effects of hypoestrogenism, or low estrogen hormone levels, limit their utility as long-term treatments. Stakeholder groups in previous research prioritization efforts, such as those undertaken by the Agency for Healthcare Research and Quality (AHRQ), have emphasized different therapeutic aims.

Stakeholders also have suggested that patient-reported outcomes (PROs), durability of symptom relief, and reproductive outcomes were the most important outcomes to measure. For example, one therapeutic aim may be to control bleeding, while another may be to relieve pressure. An effectiveness study may use a different design, depending on the therapeutic aim of interest. Stakeholders have noted that the most important outcomes to study would vary depending on the severity of the disease in the patients under study. Conversely, the most important treatment options to study would be driven by the patient's treatment goals. For example, patients whose primary concerns are reproductive outcomes will not consider studies that include hysterectomy as a treatment arm.[1]

Multiple recent Cochrane reviews have examined the level of evidence for treatment options for uterine fibroids. In separate reviews, the evidence states:

- Mifepristone, a drug that blocks progesterone receptors in fibroids, reduced heavy menstrual bleeding and improved fibroid-specific quality of life. However, it was not found to reduce fibroid volume. Further well-designed, adequately powered randomized controlled trials (RCTs) are needed before a recommendation can be made on the use of mifepristone for the treatment of uterine fibroids.[2]
- Uterine artery embolization (UAE) appears to have an overall patient satisfaction rate similar to hysterectomy and myomectomy, while offering an advantage with regards to a shorter hospital stay and quicker return to routine activities. However, UAE is associated with a higher rate of minor complications and an increased likelihood of requiring surgical intervention within two to five years of the initial procedure. There is very low level evidence suggesting that myomectomy may be associated with better fertility outcomes than UAE, but more research is needed.[3]
- There is no consistent evidence from the limited number of studies that selective estrogen receptor modulators (SERMs) reduce the size of fibroids or improve clinical outcomes. Further studies are needed to establish evidence of the benefit of SERMs in treating women with uterine fibroids.[4]
- Patient satisfaction scores after endometrial ablation are high (90%- 95%), but for those patients with amenorrhea, or absence of menstrual period, satisfaction rates are much lower (15%- 60%). Data from randomized trials demonstrates that uterine fibroid embolization results in a shorter hospital stay and quicker return to work as compared with abdominal hysterectomy for leiomyomas; however, after embolization, up to 20 percent of women need a second procedure. Ex-ablative therapy of leiomyomas with focused ultrasound is the newest of the three methods. It has a special set of patient-selection criteria and is available at fewer than 20 medical centers in the United States.[5]

Multiple literature reviews from Cochrane, AHRQ, and other researchers have concluded that there are still gaps in the evidence base needed to adequately address provider/patient decision making and treatment selection.

Currently, there are no randomized controlled trials that compare uterine fibroid embolization to vaginal hysterectomy, laparoscopic hysterectomy, or laparoscopic hysterectomy. Patient satisfaction after endometrial ablation is high, but bleeding may still occur and requires women to have a second procedure. The newest

method is ex-ablative therapy using focused ultrasound, but this is not yet available throughout the county.

Research has not yet established which therapies are the most effective and for whom. Therefore, choosing the best therapies is an ongoing challenge. Women need additional information and tools to guide their decision making. Differences in available evidence and sharing decision making across subspecialists is a challenge as well. These procedures are offered by different subspecialists, including gynecologists and interventional radiologists.

Strategies to effectively treat uterine fibroids generally focus on particular treatments. There is widespread recognition that childbearing desires and symptomatic control have an impact on patient satisfaction, treatment choices, and health outcomes. Future work could determine which treatment modalities along with shared decision-making tools are most likely to improve outcomes for women.

PCORI views these gaps in research as an area where we can contribute to improving health outcomes. Studies are needed that examine the impact of improved educational materials appropriate for all levels of health literacy for those making these healthcare decisions.

Research Areas of Interest
We have identified the following topic areas in uterine fibroid treatment as areas of potential research funding:

- Questions that compare interventions to evaluate the relative effectiveness of the available procedural or nonprocedural treatments for uterine fibroids.
- Questions that address the relative effectiveness of procedural treatments (e.g., hysterectomy, myomectomy, uterine artery embolization, magnetic resonance image-guided focused ultrasound, endometrial ablation) on durability of symptom relief and patient-reported outcomes.
- Questions on the staging of treatments, including the pharmacotherapeutic options as initial therapy on durability of symptom relief and patient-reported outcomes.
- Questions that identify and compare promising strategies to identify and choose treatment options for fibroid management, including those tailored for different subpopulations.
- Questions may focus on different segments of reproductive-age women who are affected by differing symptom severity, reproductive preferences, or involve patients with additional risk factors.

We ask you to submit your questions about treating uterine fibroids and help us define which critical questions in this topic area should be further explored.

About Our Workgroup Process

For each topic considered as part our accelerated process to develop targeted PCORI funding announcements, we will convene an ad hoc workgroup to provide input on research gaps in the current evidence base and critical near-term research questions that, if answered, will improve health. Consistent with our core value of inclusiveness, each workgroup is comprised of a diverse group of researchers, patients, and other stakeholders. Each workgroup will meet once in the second quarter of 2013. Meetings will be accessible through audio-conference, webcast, or other forms of communication, and, through our website, any interested individual can contribute comments, suggestions, and input for up to two weeks before, during, and for two weeks after each meeting. Learn more about the workgroup selection process for treatment options for uterine fibroids.

Submit a Question or Comment

The question and comment period for this topic has now closed. PCORI staff will review all questions and comments received on this topic, as well as the deliberations of the ad hoc workgroup that met March 5, and recommend questions for our Board of Governors to consider approving as the basis of topic-specific PCORI Funding Announcements. We hope to release such announcements by mid-year.

We were very pleased to see how many people contributed to this process by viewing the webinar of our ad hoc workgroup's proceedings or submitting questions or comments through our website or via email. In coming months, we will post a summary of the workgroup's meeting as well as a full record of all of the questions we received. Stay up to date on this process, and all of PCORI's activities, by signing up for our email alerts.

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http://effectivehealthcare.ahrq.gov/ehc/products/152/642/DEcIDE31_Uterine Fibroid_03-07-2011.pdf. Accessibility verified February 1, 2012.
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3. Gupta JK, Sinha A, Lumsden M, Hickey M. Uterine artery embolization for symptomatic uterine fibroids. Cochrane Database of Systematic Reviews. 2012;5:Art. No.: CD005073. DOI: 10.1002/14651858.CD005073.pub3.
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