

UFE

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Title: Arterial embolization: a new treatment of menorrhagia in uterine fibroma

Summary: *First documented case of uterine fibroid embolization (UFE) for menorrhagia. Published in 1995 (French).*

Reference:

Ravina JH, Merland JJ, Ciraru-Vigneron N, Bouret JM, Herbreteau D, Houdart E, Aymard A. Embolisation artérielle: un nouveau traitement des ménorragies des fibromes utérins [Arterial embolization: a new treatment of menorrhagia in uterine fibroma]. Presse Med. 1995 Dec 2;24(37):1754. French. PMID: 8545421.

<https://pubmed.ncbi.nlm.nih.gov/8545421/>

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Title: Hysterectomy and Myomectomy versus Uterine Artery Embolization for Symptomatic Fibroids and Adenomyosis: National and Regional Trends and Adverse Events in 70,000 Patients

Summary:

In a U.S. study of 78,758 women with fibroids or adenomyosis (2016–2019), only 3% underwent UFE; 97% had surgery (77% hysterectomy, 20% myomectomy).

Compared to hysterectomy, UFE was linked to shorter hospital stays (1 vs. 5 days), fewer blood transfusions (1% vs. 4%), and lower risks of pelvic prolapse (2.6% vs. 7.7%) and bowel obstruction (1.7% vs. 3.6%).

Abstract:

Purpose

To compare patient characteristics, regional utilization, and postoperative outcomes among uterine artery embolization (UAE), myomectomy, and hysterectomy for fibroids and adenomyosis and assess whether postoperative adverse events were more common after hysterectomy.

Materials and Methods

This observational study identified all women who underwent UAE, myomectomy, or hysterectomy for fibroids or adenomyosis from 2016 to 2019 in the United States, using TriNetX, a multi-institution database of anonymous health records, yielding 78,758 patients, (UAE, 2,505; hysterectomy, 60,333; myomectomy, 15,920). Regional procedure utilization was assessed. Length of stay (LOS), reintervention, and postprocedural adverse events including pelvic floor

prolapse and intestinal obstruction were compared. Pregnancy and miscarriage rates after UAE and myomectomy were evaluated.

Results

Compared with UAE, hysterectomy was associated with longer LOS (5 days vs 1 day; $P < .01$), more blood transfusions (1.8% vs 0.7%; $P < .01$), increased pelvic floor prolapse (7.1% vs 1.7%; $P < .01$) and intestinal obstruction (3.4% vs 1.2%; $P < .01$), and decreased reintervention (0% vs 15.5%; $P < .01$) within 5 years; myomectomy was associated with more blood transfusions (2.0% vs 0.7%; $P < .01$), fewer emergency department visits within 1 month (2.9% vs 6.8%; $P = .01$), and similar reintervention rates (17.0% vs 15.5%; $P = .06$). Pregnancy occurred in 92 of 2,505 patients who underwent UAE (3.6%) and 2,744 of 15,920 patients who underwent myomectomy (17.2%), with 18% and 11% miscarriage rates, respectively ($P = .07$). UAE utilization was similar across U.S. regions.

Conclusions

Despite increased adverse events including intestinal obstruction and pelvic floor prolapse, hysterectomy was the most common intervention in women with uterine fibroids and adenomyosis. Reintervention occurred in 15%–20% of patients after UAE or myomectomy.

Reference:

Deipolyi AR, Annie F, Bush SH II, Spies JB. Hysterectomy and myomectomy versus uterine artery embolization for symptomatic fibroids and adenomyosis: national and regional trends and adverse events in 70,000 patients. *J Vasc Interv Radiol*. 2025;36(6):1011–1018.e4.
doi:10.1016/j.jvir.2025.02.026
[https://www.jvir.org/article/S1051-0443\(25\)00218-0/abstract](https://www.jvir.org/article/S1051-0443(25)00218-0/abstract)

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Title: Quality of Life Assessment After Uterine Artery Embolization in Patients with Fibroids Treated in an Ambulatory Setting

Summary:

In a study of 1,285 patients, UAE resulted in significant improvements: reduced heavy bleeding (96%), pelvic pain and fatigue (94%), urinary symptoms (92%), and enhanced physical activity (82%), energy and mood (85%), sexual function (71%), and overall quality of life (86%).

Abstract:

Background: Despite the growing acceptance of uterine artery embolization (UAE) to treat women with fibroid disease, its wider use remains limited because it is not considered to be a definitive therapy, as opposed to surgical treatments such as myomectomy or hysterectomy. Given the evolution of health care towards outpatient medicine, it is critical to determine the impact of UAE on the quality of life (QoL) of women with fibroid disease treated in an outpatient setting. Objectives: The purpose of this study was to assess the QoL of patients with fibroids

treated with UAE in an office-based lab setting. **Study Design:** This prospective single-arm study was approved by the western IRB (wIRB) and included 1285 consecutive patients—the largest study on UAE to date—enrolled from September 2021 to December 2023 who were seen for a baseline evaluation in a clinic and then, subsequently, between 2 and 8 months post-UAE for follow-up clinical and imaging evaluation. Patient QoL was assessed using the validated QoL questionnaire: the Uterine Fibroid Symptom and Health-Related Quality of Life questionnaire. **Results:** The results from all 1285 patients were analyzed. The median and mean follow-up periods were 182 and 180 days, respectively (interquartile range of 19 days). UAE led to reduced bleeding in 96% of patients, pelvic pain and bulk-related symptoms in 94%, fatigue in 94%, and urination frequency in 92%. On the other hand, improvements were seen in the level of activity in 82%, energy and mood in 85%, and sexual function in 71% of the patients, whereas the general QoL index significantly increased in 86% of the patients ($p < 0.001$). More than one third of our patients (39%) had Medicaid insurance, reflecting the relatively low socioeconomic status of our patient population. **Conclusions:** In this largest clinical trial on UAE to date, we found that performing UAE in an outpatient setting significantly improved patients' clinical symptoms such as bleeding and bulk symptoms and, most importantly, their overall QoL.

Reference:

Geschwind JF, Afsari B, Nezami N, White J, Shor M, Katsnelson Y. Quality of life assessment after uterine artery embolization in patients with fibroids treated in an ambulatory setting. *Diagnostics (Basel)*. 2025;15(6):739. doi:10.3390/diagnostics15060739
<https://www.mdpi.com/3226572>

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Title: Comparative efficacy of uterine artery embolization versus laparoscopic myomectomy in treating uterine fibroids: a propensity score matched analysis

Summary:

In a propensity score–matched study of 132 patients, UAE showed key advantages over laparoscopic myomectomy for symptomatic fibroids.

UAE resulted in less surgical trauma (0 mL vs. 141 mL blood loss), quicker recovery, shorter hospital stays, and lower recurrence rates (17% vs. 32%).

Both treatments improved symptoms and quality of life, with UAE offering greater gains in energy, mood, and self-perception.

Abstract:

Objective: The aim of this study was to comparatively analyze the therapeutic effects of uterine artery embolization (UAE) and laparoscopic myomectomy (LM) on uterine fibroids to determine which treatment method is more beneficial for patients.

Materials and methods: A retrospective study was conducted on 396 patients who underwent UAE (n = 153) or LM (n = 243) treatment from April 2010 to September 2019. After 1:1 propensity score matching (PSM), a comparative analysis was conducted on surgical trauma magnitude, postoperative recovery time, improvement in associated symptoms and quality of life, surgical adverse events, recurrence rates, and further interventions.

Results: In PSM, 66 pairs (132 patients) were successfully matched. Both treatments significantly alleviated symptoms and enhanced quality of life. Compared to the LM group, the UAE group had less intraoperative bleeding ($P < 0.001$), a lower rate of hemoglobin decrease ($P < 0.001$), shorter operation, postoperative, and overall hospital stays ($P < 0.001$), and a lower postoperative recurrence rate ($P < 0.05$), all statistically significant. Moreover, the UAE group showed notable advantages in postoperative activities ($P < 0.05$). However, UAE patients faced higher hospitalization costs ($P < 0.001$). Adverse event rates (7.6% vs. 9.1%) and postoperative reintervention rates (7.6% vs. 7.6%) were relatively low and not significantly different between groups ($P > 0.05$).

Conclusion: Both UAE and LM can significantly improve patient symptoms and enhance their quality of life, and both treatment methods have low rates of adverse events and reinterventions. Compared to LM, UAE treatment for uterine fibroids presents advantages such as less trauma, faster recovery, and lower recurrence rate, but has higher treatment costs.

Reference:

Wei C, Sun X, Li S, Bai X, Jin Y. Comparative efficacy of uterine artery embolization versus laparoscopic myomectomy in treating uterine fibroids: a propensity score matched analysis. *Discov Oncol.* 2025 Jan 7;16(1):14. doi: 10.1007/s12672-025-01737-7. PMID: 39776376; PMCID: PMC11707110.

<https://pubmed.ncbi.nlm.nih.gov/39776376/>

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Management of Symptomatic Uterine Leiomyomas: ACOG Practice Bulletin, Number 228 - <https://pubmed.ncbi.nlm.nih.gov/34011888/>

Title: Management of Symptomatic Uterine Leiomyomas: ACOG Practice Bulletin

Summary:

ACOG Guidance: Management of Symptomatic Uterine Leiomyomas

- UAE is endorsed as a minimally invasive option for patients desiring uterine preservation (Level A).

Myomectomy is preferred over hysterectomy when fertility or uterine preservation is desired, ideally via minimally invasive techniques (Level B/C).

Hysterectomy remains the definitive option for those not desiring future childbearing (Level C).

Abstract:

Uterine leiomyomas (fibroids) are the most common solid and symptomatic neoplasm in women. They are the leading indication for hysterectomy (1, 2), which is a definitive and effective surgical treatment for leiomyoma. However, many patients benefit from and seek out management options other than hysterectomy because they desire future childbearing or wish to retain their uterus. The purpose of this Practice Bulletin is to provide updated evidence-based recommendations for the medical, procedural, and surgical management of symptomatic leiomyomas. Discussion of the use of morcellation in the surgical management of leiomyomas is beyond the scope of this document and is addressed in a separate American College of Obstetricians and Gynecologists (ACOG) publication (3)

Reference:

Management of Symptomatic Uterine Leiomyomas: ACOG Practice Bulletin, Number 228. Obstet Gynecol. 2021 Jun 1;137(6):e100-e115. doi: 10.1097/AOG.0000000000004401. PMID: 34011888.

<https://pubmed.ncbi.nlm.nih.gov/34011888/>