A Systematic Review of Level I Evidence in the Treatment of Uterine Fibroids

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Purpose

• To systematically review randomized controlled trial data to compare the efficacy of uterine artery embolization (UAE), high-intensity focused ultrasound (HIFU), hysterectomy, and medical therapy in the management of symptomatic uterine fibroids

Methods

• Systematic review was performed of clinical literature to identify Level 1 evidence that compares treatment modalities in the management of symptomatic fibroids
• UAE, HIFU, hysterectomy, and medical therapy were assessed
• Five-year results from the REST trial and ten-year results from the EMMY trial comparing clinical outcomes between hysterectomy and UAE were evaluated1-2
• One network meta-analysis consisting of 47 randomized controlled trials assessing the efficacy of medical therapy in the management of uterine fibroids was evaluated3
• One randomized controlled trial comparing HIFU and UAE was reviewed4
• Network meta-analysis could not be performed because each study independently assessed different primary endpoints4
• Treatment modalities were assessed on the basis of symptom relief, quality of life, need for re-treatment, the urogenital distress inventory (UDI), the defecation distress inventory (DDI), and recovery time1-4

Results

• The REST trial demonstrated that when comparing between UAE and hysterectomy treatment groups at 5-years post-procedure, there was no difference when comparing quality of life, complications, or adverse events1
  • Higher need for re-intervention in the UAE group (32%) versus the control group (4%)1
• The EMMY trial demonstrated that when comparing between UAE and hysterectomy treatment groups at 10-years post-procedure, that there was no difference between quality of life, satisfaction, urogenital distress, or defecation distress2
  • 35% of the initial UAE group required hysterectomy within 10-years post-procedure2
• The network meta-analysis demonstrates that no evidence exists to support medical treatment to replace procedural intervention3
• The randomized control trial and comprehensive cohort analysis comparing HIFU and UAE at 6-weeks post-procedure illustrated no difference in symptom resolution, incidence of adverse events, recovery time, or post-operative opioid use4

Conclusion

• Endovascular therapy for symptomatic uterine fibroids with UAE resulted in equivalent symptomatic relief, complications, and risk for adverse events when compared with hysterectomy and HIFU1-2
• UAE possesses a higher need for post-treatment re-intervention1-2
• UAE is a fertility-preserving solution with shorter procedure time and shorter post-procedural recovery1-2,4
• Insufficient long-term follow-up randomized controlled evidence to currently support HIFU over UAE and hysterectomy4
• No evidence to support medical intervention alone3

References


Figure 1 REST trial Kaplan Meier Curve showing freedom from further intervention for treatment failure or complications1

Figure 2 EMMY trial ten-year follow-up data for mental and physical health & quality of life scored by Short Form (SF)-36; high mental and physical component summaries indicate better functioning; high UDI and DDI scores indicate worse functioning2

Figure 3 EMMY trial Kaplan Meier Curve for proportional hysterectomy-free survival following UAE2

Figure 4 REST trial Kaplan Meier Curve showing freedom from further intervention for treatment failure or complications3