

Uterine Fibroid Embolism (UFE) Clinical Outcomes in Large vs Small Fibroids: A Matched Cohort Analysis

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OBJECTIVE

This project aimed to investigate the clinical outcomes of a medical procedure called Uterine Fibroid Embolization (UFE) in women with large versus small fibroids. To do this, we used a study design called age-matched cohort analysis, which involves comparing two groups of individuals with similar ages who have undergone the same medical treatment. The goal of this project was to determine whether the size of the fibroids had any impact on the effectiveness of UFE in improving clinical outcomes.

MATERIALS & METHODS

UFE cases were identified using CPT codes. Large fibroids were defined as fibroids measuring more than 10cm, and small fibroids as those smaller than 10cm. 1:1 propensity matching between the large and small fibroid groups was performed based on patient age at time of procedure.

Clinical outcomes and data were obtained from EMR and PACS. Volume analysis was done with MIM Software (Cleveland, OH). Logistic linear regression, Pearson correlation, and chi-square analyses were performed using IBM SPSS (Armonk, NY.), with significance levels kept at $p < 0.05$.

We saw **no significant difference** in clinical outcomes between patients with small or large fibroids.

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RESULTS

218 patients underwent UFE were filtered to 48 in the large fibroid and 170 in the small fibroid groups. Following 1:1 propensity age-matching, 96 patients were included in the analysis (48 in each cohort). Average age of both cohorts was 44 ± 5 years. Mean preprocedural uterine volume in small and large cohorts were 496 ± 336 cm³ and 1150 ± 669 cm³. At the average imaging follow up of 17.1-weeks, average volume decreased to 335 ± 218 cm³ and 885 ± 576 cm³ for small and large fibroids. Volume reduction was not significantly different between groups ($24.6\% \pm 5.8\%$ for small and $30.3\% \pm 15.5\%$ for large fibroids, $p=0.041$).

At the mean follow up duration of 21.3-weeks, clinical bleeding symptom relief was achieved in 93.3% of small fibroid patients and 84.6% of large patients ($p=0.08$). Bulk symptom relief was achieved in 73.3% of large patients and 97% of small patients ($p=0.02$). On multivariate regression analysis, the preprocedural uterine volume was the only factor predictive of the bulk symptom response ($p=0.04$). As expected, the number of vials used for embolization was directly correlated with pre-procedure uterine volume ($p < 0.01$).

Nonvascular minor complications were seen in 3 patients with small group and 7 patients in the large group. Subsequent myomectomy or hysterectomy was needed in 3 of the small group and 5 in the large group.

CONCLUSIONS

Large uterine fibroids have similar outcomes to small fibroids following UFE for bleeding symptoms and lower response rates for bulk symptoms. On multivariate regression analysis, preprocedural uterine volume was the only factor predicting the bulk symptom response. The percentage of volume reduction was similar between the groups following UFE.