Magnetic Resonance-Guided Focused Ultrasound Surgery (MRgFUS) of Uterine Fibroids in Singapore

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Abstract

Introduction: Uterine fibroids are the most common type of gynaecologic benign tumours, occurring in 25% to 50% of women during their reproductive lives. About half of the affected women have clinically significant symptoms, including abnormal bleeding, menstrual pain, frequent urination, constipation and abdominal distension. Magnetic resonance-guided focused ultrasound surgery (MRgFUS) has been used to treat patients with benign lesions and a variety of malignancies. The objective of this study is to evaluate symptom relief before and after MR-guided ultrasound ablation of fibroids.

Materials and Methods: A total of 37 patients with symptomatic uterine fibroids were treated in this study. Results: MRgFUS treatment led to a significant, time-dependent decrease in not only Symptom Severity Scores (SSS), but also the mean fibroid volume. The average reductions in volume were 41.6% and 52.6% at 6 months and 12 months respectively ($P <0.05$). The mean SSS of the 37 patients was 41.7 ± 2.8 before treatment whereas the average SSS was 26.9 ± 3.6, 20.7 ± 3.4, 18.5 ± 3.6, 16.5 ± 7.1, 9.8 ± 3.6 at 3 months, 6 months, 1 year, 2 years, and 3 to 4 years respectively. The decrease in scores was significant at all time points up to 3 to 4 years ($P <0.05$ and $P <0.001$). Conclusion: MRgFUS is a safe and effective non-invasive treatment for patients with symptomatic fibroids.

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