

Ultrasound-guided microwave ablation for abdominal wall endometriosis: a novel minimally invasive approach. Tan Ee Ping, Debbie Teh Sue-Jian, Sharifah Halimah Jaafar

Introduction

Abdominal wall endometriosis (AWE) is a condition involving subcutaneous and muscular deposits of endometrial tissue. While conventional management typically involves surgical excision, microwave ablation (MWA) has emerged as a minimally invasive alternative. The aim of this study is to investigate the effectiveness of MWA as an alternative to surgical excision.

Methods

This case series examines ultrasound-guided MWA in 8 patients presenting with symptomatic AWE. All patients had well-defined, ultrasound-visible lesions (mean baseline volume: 1.4 cm³) causing cyclical pain. Under continuous ultrasound guidance, a microwave antenna was positioned to deliver targeted thermal energy, minimizing injury to surrounding tissue. Lesion volume reduction and symptom resolution were assessed at 1 week, 1 month, 3 months, and 6 months post-procedure.

Results

Mean age of the patients was 39 years. Volumetric analyses showed marked shrinkage: a 51% reduction at 1 week, 69% at 1 month, 92% at 3 months, and 96% at 6 months. Clinical symptoms improved in parallel, with complete pain resolution reported by all patients. No reinterventions were required, indicating effective treatment. Minor procedural discomfort and transient local tenderness were the only adverse effects, and all patients were discharged the same day.

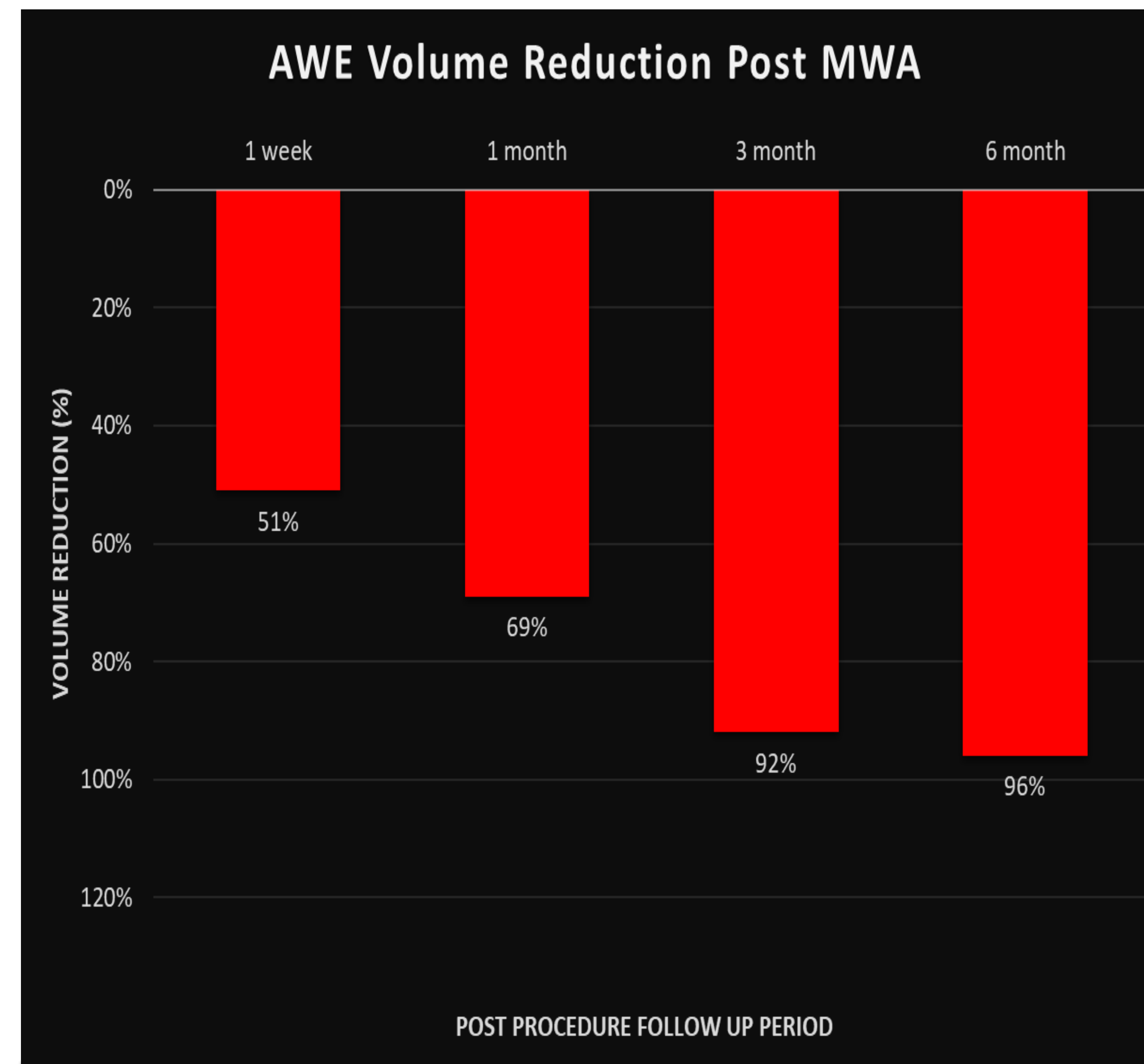


Fig 1: Pre-MWA Endometriotic Nodule

Fig 2: Post MWA 3 months

Conclusion

This case series underscores the value of real-time ultrasound guidance in ensuring precise ablation and preserving normal tissue. By offering rapid symptom relief and substantial lesion volume reduction, MWA addresses key limitations of surgical excision which can be complex especially in larger lesions situated at the rectus sheath or muscle. The favorable safety profile and efficacy observed suggest that ultrasound-guided MWA may be a valuable, minimally invasive option for AWE. Larger studies are needed to standardize protocols and confirm these promising outcomes.