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Transcervical ultrasound-guided microwave ablation of fibroids and adenomyosis: a scarless surgery

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Objectives

Microwave ablation is an effective alternative to myomectomy. Ultrasound-guided percutaneous ablation poses a potential risk of bowel injury, which can be effectively avoided via the transcervical route. In this study, we aimed to evaluate the efficacy, safety and feasibility of ultrasound-guided microwave ablation (MWA) via transcervical approach for the treatment of fibroids and adenomyosis

Methods

A total of 104 women with fibroid (mean fibroid volume: 128.3 cm3) underwent MWA for 185 fibroids, with assessments at baseline, 3, 6 and 12 months. Another 87 patients with adenomyosis (mean uterine volume: 249.8 cm3) were treated and evaluated at baseline 3, 6, and 12 months. Both groups had continuous ultrasound guidance to ensure precise transcervical antenna placement, delivering targeted thermal necrosis without necessitating abdominal incisions. Primary endpoints included lesion volume reduction, symptom improvement and adverse events.

Results

For Fibroid, average volume reductions ranged from 34% to 86% across follow-up intervals. Reinterventions were limited to one repeat MWA, six myomectomies, and two hysterectomies. Three patients underwent hysteroscopic myomectomy following significant shrinkage, achieving complete fibroid removal without major surgery. Among adenomyosis patients, mean uterine volume decreased by 44% at 3 months, 47% at 6 months, and 36% at 12 months; Adverse events were prolonged spotting (4.8%) and pelvic pain (9.6%).

Conclusion
Ultrasound-guided MWA via transcervical routes achieves notable lesion shrinkage and symptom relief in fibroids and adenomyosis, exhibiting minimal complications and obviating surgical wounds. These findings support MWA as a day-case, uterine-preserving technique that optimizes patient outcomes while minimizing morbidity.

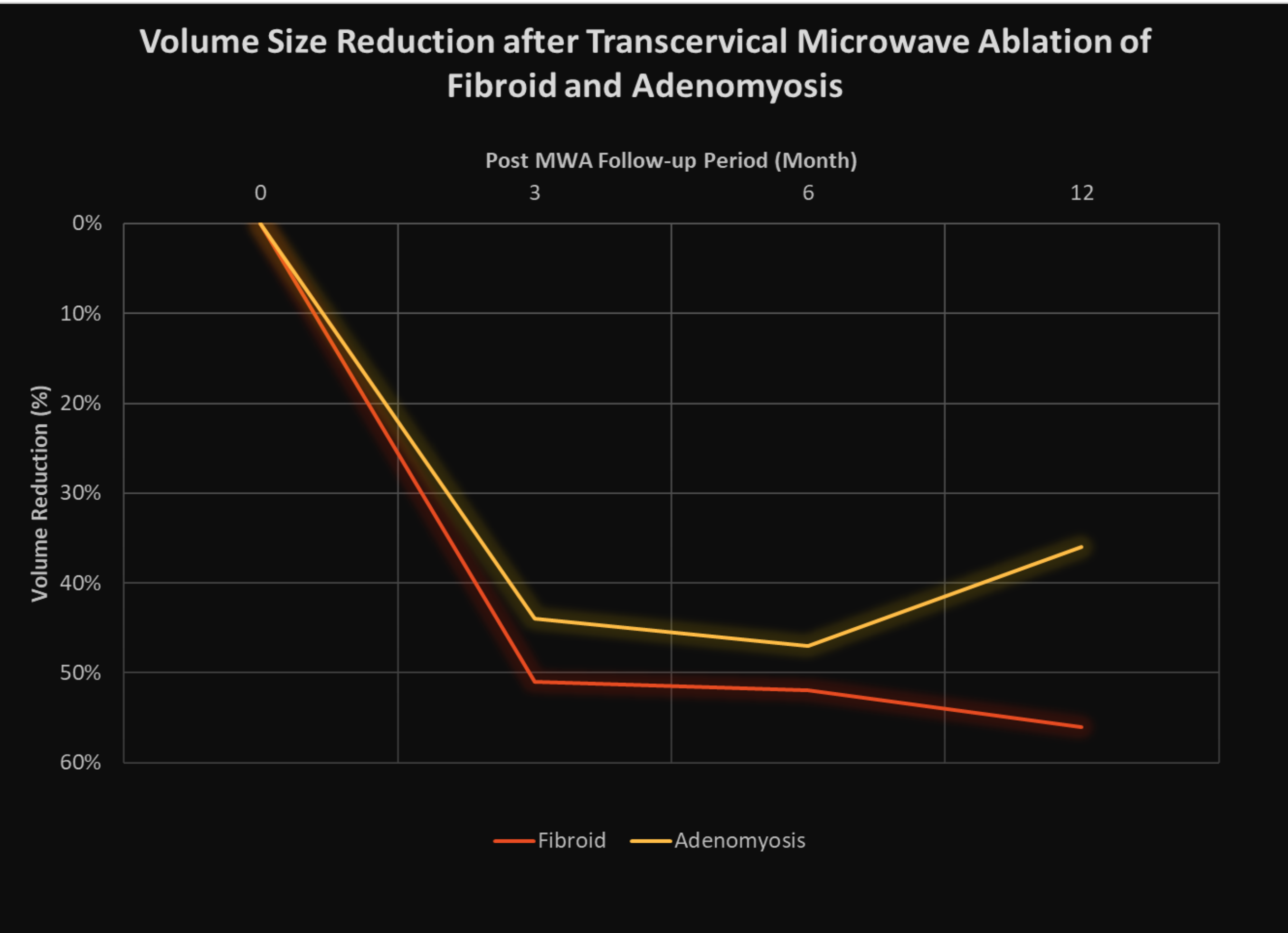


Fig 1: Line Chart showing Size reduction of fibroid and adenomyosis at 3, 6 and 12 months post ablation

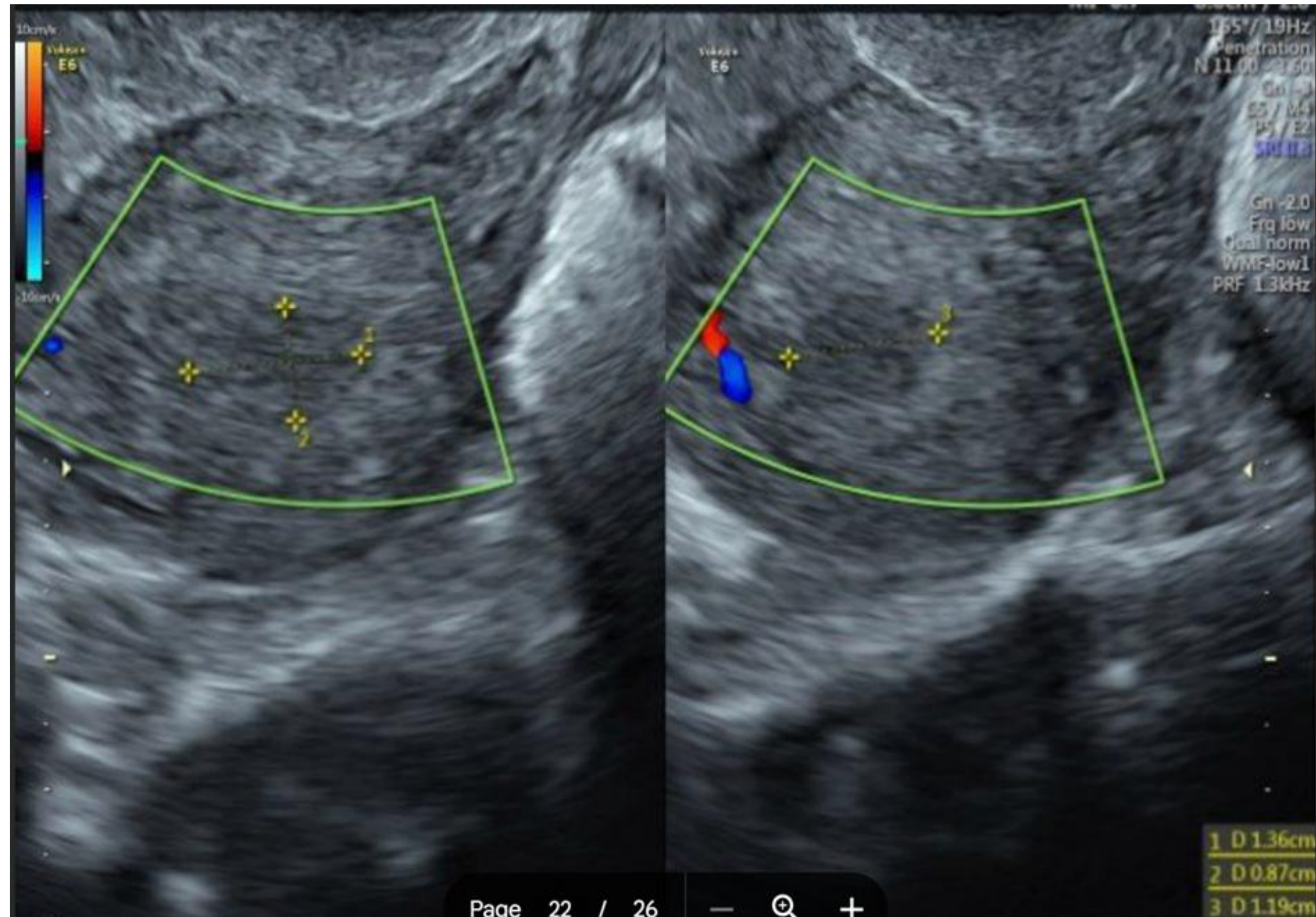


Fig 3: Ultrasound scan 3 months post microwave ablation with 97% volume reduction

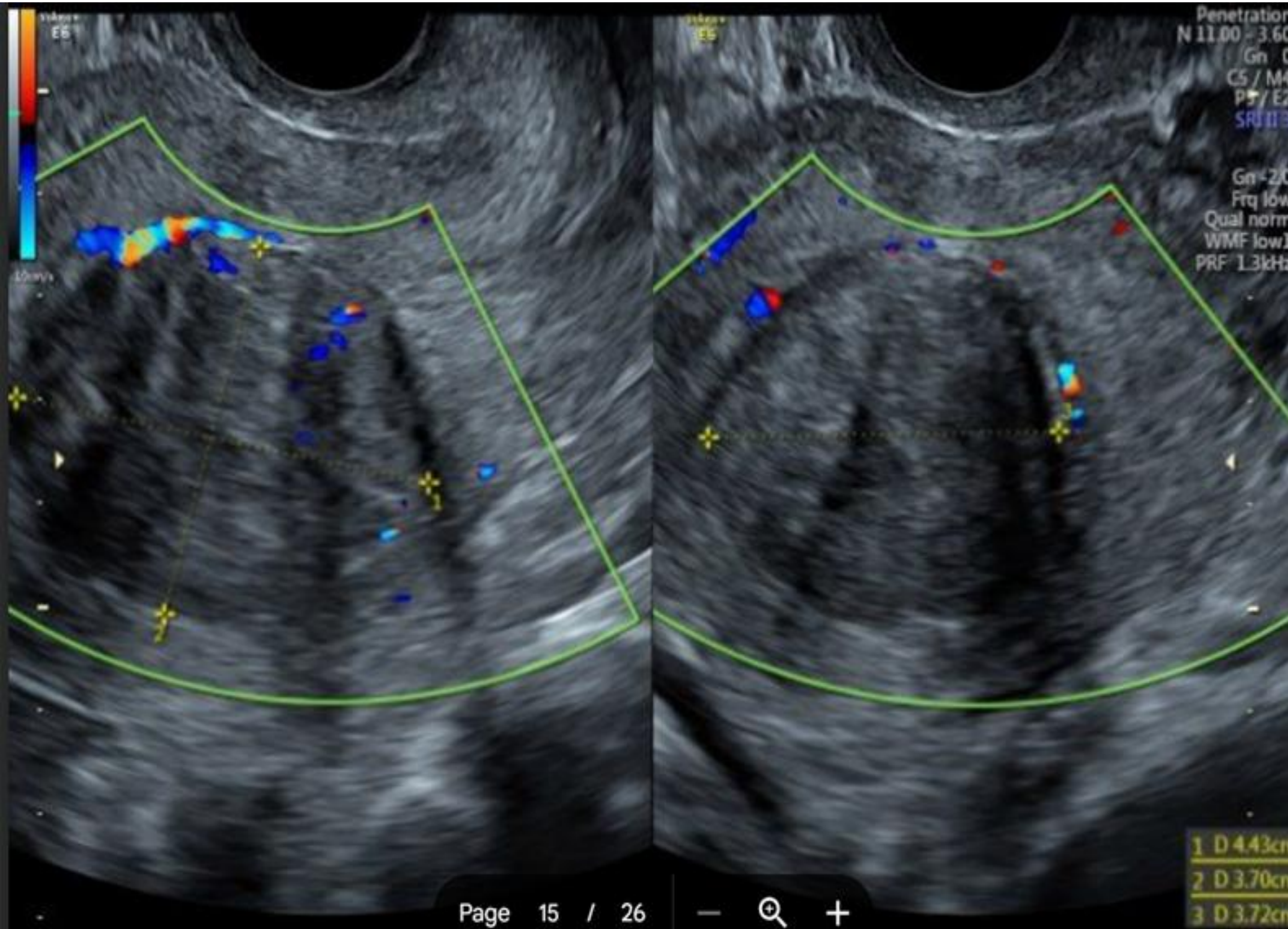


Fig 2: Ultrasound scan showing a submucosal fibroid before ablation

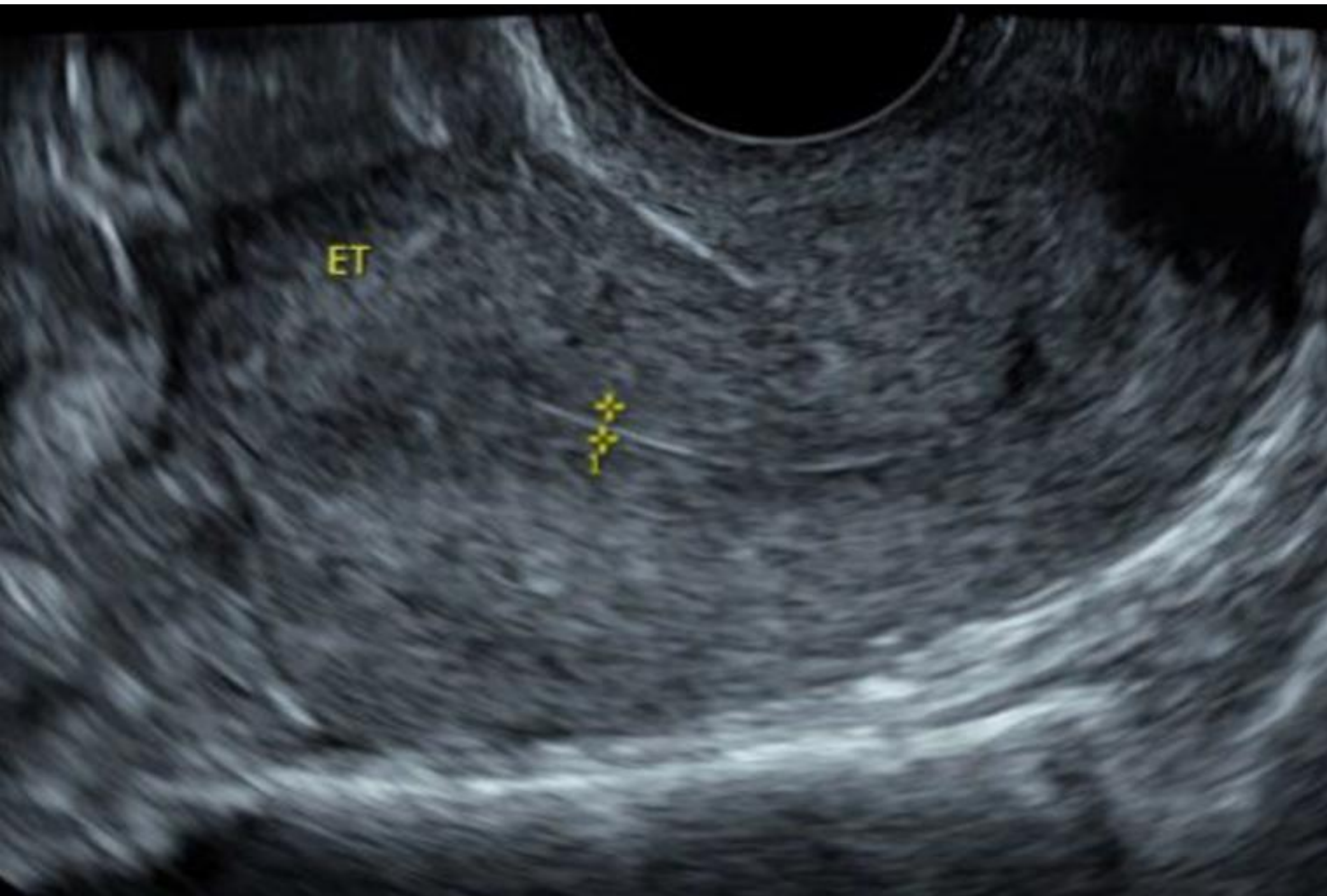


Fig 4: Ultrasound scan 6 months post microwave ablation with complete resolution of fibroid