Sixteen Years and 2,992 MRI-Verified USgHIFU Treatments for Uterine Fibroids and Adenomyosis in Korea: Long-Term Clinical Outcomes

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BACKGROUND

• Rapid expansion of USgHIFU in Korea since 2010

• Clinical standardization has not kept pace with market growth

• Large real-world cohorts provide a foundation for evidence-based standardization and reproducible implementation of USgHIFU.

Objective

To evaluate the long-term effectiveness and safety of a standardized USgHIFU protocol and its potential role in evidence-based clinical standardization.

METHODS

• N=2,992 consecutive patients
(Fibroids: 1,620; Adenomyosis: 1,372)

• Single-operator standardized protocol

• MRI-verified NPV assessment
(Immediate post-treatment CE-MRI)

• Long-term subset:
476 patients, 3–9.7 years follow-up
(mean 4.6 years)

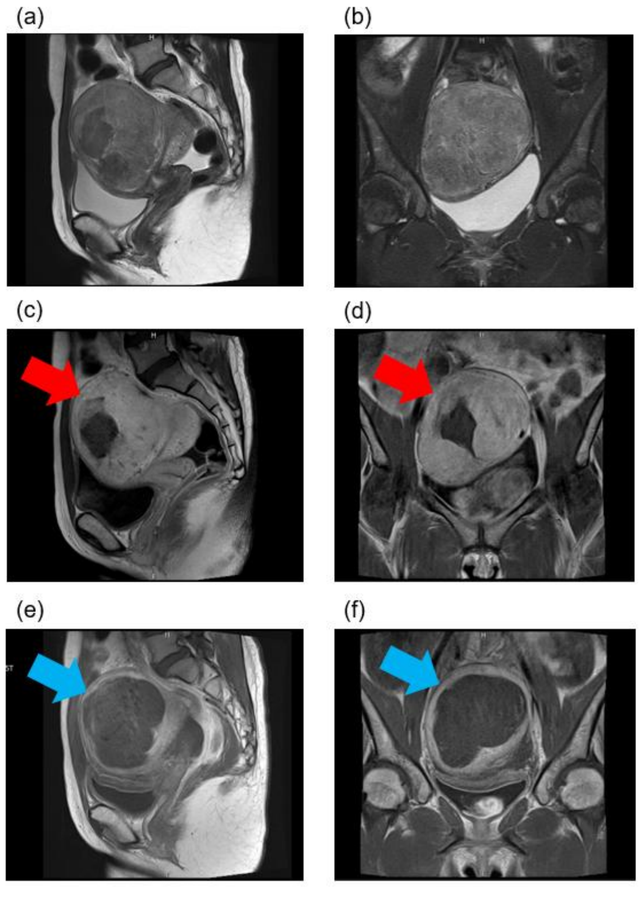


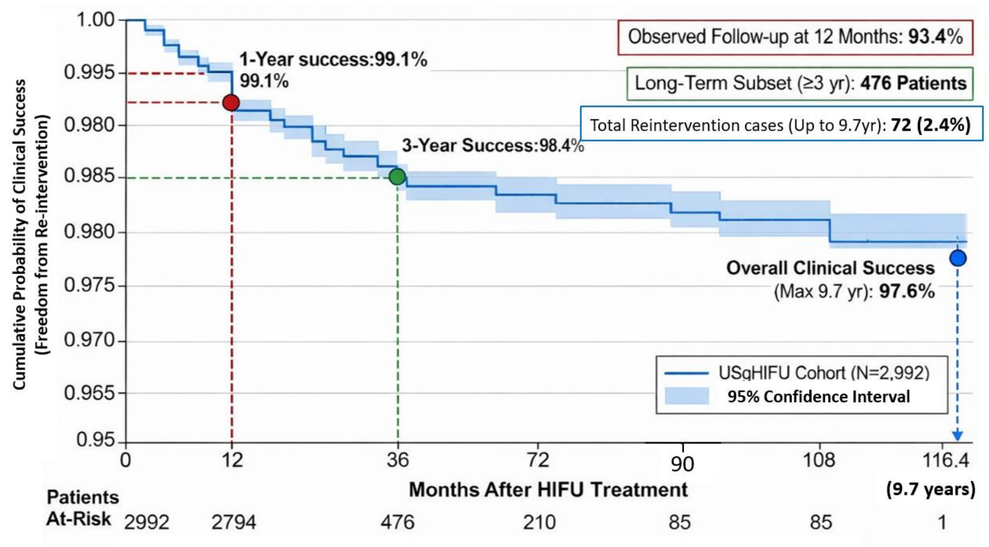
Figure 1.
Representative retreatment case following incomplete treatment at another institution, demonstrating the value of MRI verification.

(a,b) Pre-treatment MRI before referral.
(c,d) Contrast-enhanced MRI following previous HIFU treatment, demonstrating substantial residual viable lesion.
(e,f) Immediate post-treatment contrast-enhanced MRI after standardized MRI-integrated retreatment, demonstrating extensive non-perfused volume (NPV).

RESULTS

Mean NPV: 86.5 ± 7.2%

94.2% achieved NPV ≥80%

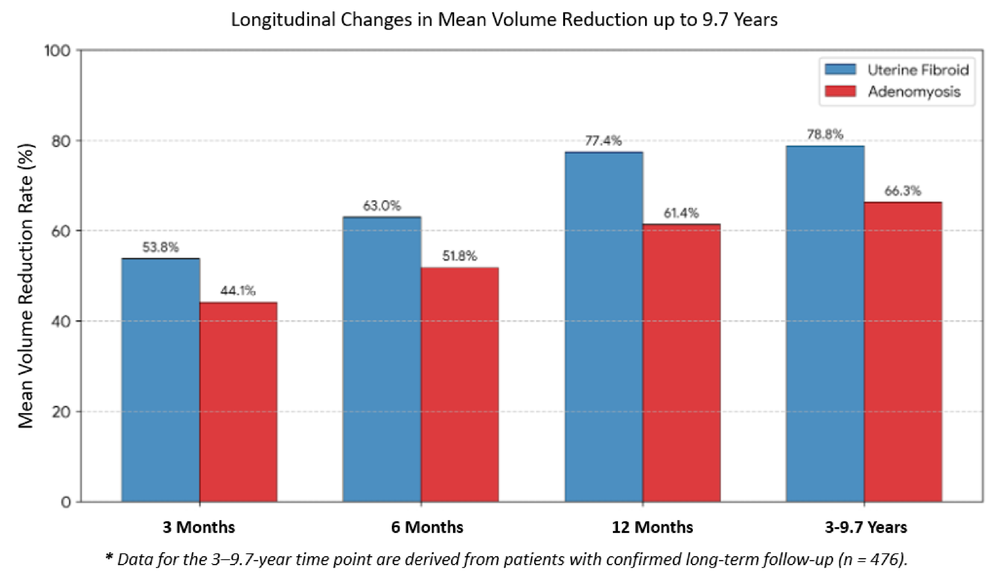


Y axis: Kaplan–Meier Estimated Probability of Freedom from Reintervention

X axis: Months After HIFU Treatment (0 to 116.4 Months)

97.6%
Freedom from Reintervention
Kaplan–Meier Estimate at 9.7 Years

Figure 2.
Kaplan–Meier analysis showing an estimated 97.6% freedom from reintervention at 9.7 years.



Blue bar: Uterine Fibroid / Red bar: Adenomyosis

Figure 3.
Sustained volume reduction in fibroids and adenomyosis.

MAIN TAKEAWAY

MRI-Verified Standardized USgHIFU

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High NPV Achievement (≥80%)

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Durable Volume Regression

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Sustained Volume Reduction and Low Reintervention Rates

CONCLUSIONS

• This 16-year single-operator cohort demonstrated favorable long-term outcomes and a low observed reintervention rate following USgHIFU.

• MRI-based treatment planning and immediate post-treatment MRI assessment contribute to optimized clinical outcomes.

• These 16-year real-world data support broader clinical standardization of focused ultrasound therapy.

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