

Case Report

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Microwave Ablation in Patient with Symptomatic Intramuscular Vascular Malformation

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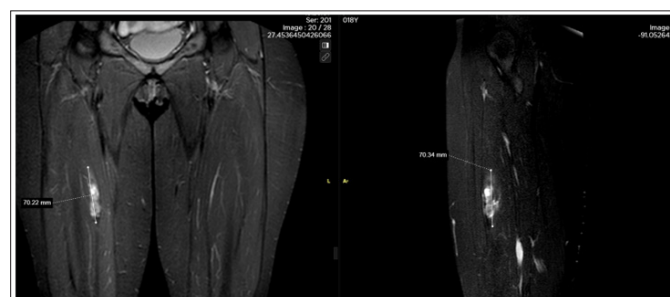
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Clinical History/Pre-Treatment Imaging

An 18-year-old female presented with a twoyear history of worsening right thigh pain exacerbated by exertion and prolonged standing, accompanied by swelling. Ultrasound revealed a well-defined heterogenous iso-to-hyperechoic solid mass in the medial compartment of the right thigh, with slow venous flows. MRI confirmed an intramuscular mass in the vastus medialis muscle, showing high signal intensity on T2weighted images and heterogeneous high T1W signals, indicating Hemorrhagic changes, and continuous contrast enhancement, consistent with an intramuscular slow-flow Venous Malformation (VM).



Treatment Options/Results

Microwave ablation (MWA) was selected due to the solid nature of the VM. The procedure was performed under femoral nerve block with ultrasound guidance, utilizing hydrodissection to isolate the mass. The moving-shot technique was implemented, achieving a hyperechoic appearance within six minutes. Post-procedure evaluations showed no signs of hemorrhage or vascular flow. The patient was hospitalized for 12 hours and discharged with a Visual Analog Scale (VAS) pain score of 4, reduced from 6 prior to the procedure. At the three-month follow-up, imaging studies revealed a significant reduction in mass volume (%50) accompanied by only peripheral rim enhancement on MRI. Correspondingly, the patient's Visual Analog Scale (VAS) score improved, decreasing to 1.



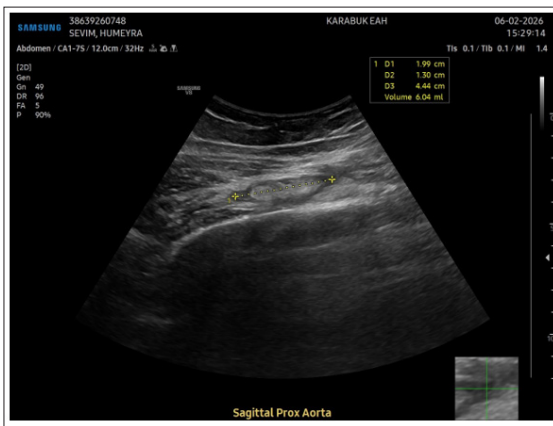
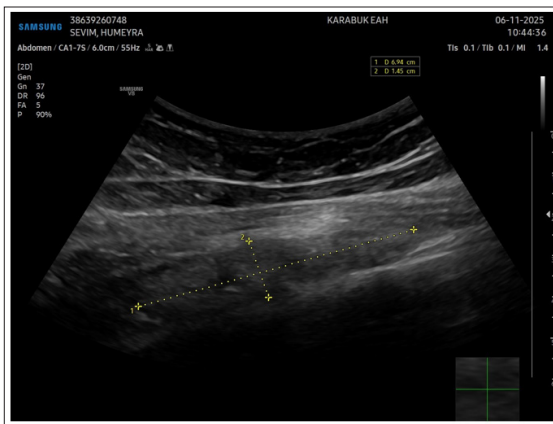
Discussion

While traditional treatments for VMs include surgery and sclerosing therapy, microwave ablation is a safe and effective alternative, providing symptom relief and improved quality of life with minimal complications.

Take-Home Points

MWA is one of the treatment options for soft tissue tumors, particularly in extremity VMs, due to its ability to cause tissue necrosis without significant complications.





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