

The Value of MR Imaging Using Microscopy Coil in Evaluation of Finger Masses: Correlation with Pathologic and Surgical Findings

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Purpose: To determine the usefulness of MR imaging with microscopy coil assembly in the evaluation of small finger masses.

Materials and methods: Between September 2003 and August 2005, eighteen consecutive patients (13 female, 5 male; mean age, 52 years; age range, 32-73 years), who were clinically suspected of having soft tissue mass of the finger were examined with MR imaging using microscopy coil before surgical exploration. Eight patients had undergone MR imaging with conventional surface coil as well. After MR imaging, all 18 patients underwent surgery and surgical findings were compared with MR imaging findings. All MR images were obtained with a 1.5 T MR scanner using a 47-mm microscopy surface coil. The MR imaging evaluation included assessment of precise tumor location, the margin and extent of lesion, the relationship between mass and neurovascular bundles and bone, and the size of mass.

Results: Of the 18 patients, nine were pathologically confirmed as glomus tumors, five giant cell tumors of tendon sheath (GCTTS), three hemangiomas, and one squamous cell carcinoma of skin. Location, association with neurovascular bundles and bone, margin or extent of finger masses were well evaluated with MRI using microscopy coil, with good correlation between imaging and surgical and pathologic findings. Also, very small-sized mass was readily detected. In cases, where MR images with conventional surface coil were available, the images with microscopy coil showed better correlation with surgical and pathologic findings.

Conclusion: MRI using microscopy coil is useful in the preoperative evaluation of small finger masses.