A comparison between histopathology and findings on magnetic resonance imaging of subcutaneous lipomatous soft-tissue tumors.

OBJECTIVE: To retrospectively analyse the magnetic resonance (MR) findings of subcutaneous lipomatous soft-tissue tumours (SLSTT) in order to define a diagnostic and therapeutic strategy. METHODS: The MR findings of 46 SLSTT were registered for the following data: area, location within the subcutaneous compartment, dimensions, shape and delineation, signal intensity (SI) on different pulse sequences, signal homogeneity, degree and pattern of contrast enhancement. The MR findings, together with patients’ age and gender, were compared with histopathological findings. RESULTS: Sixty-eight percent of the lipomas had a homogeneous T1-SI identical to the SI of subcutaneous fat. Heterogeneity in other lipomas was due to fat necrosis and small septa. Other lesions with homogeneous T1-SI identical to the SI of subcutaneous fat included lipoblastoma, lipomatosis and lipoma-like hibernoma. None of the liposarcomas were homogeneous and isointense to SI of subcutaneous fat on T1-weighted imaging (WI). Lipoma variants and liposarcomas showed overlapping MR characteristics. CONCLUSIONS: SLSTT with homogeneous T1-SI identical to the SI of subcutaneous fat are benign. If a SLSTT has other MR characteristics, differentiation based on MRI cannot be made and biopsy is needed. We used this finding in defining a