

HIGH RESOLUTION UNENHANCED COMPUTED TOMOGRAPHY IN PATIENTS WITH SWOLLEN LEGS

E.D. Monnin-Delhom, B.P. Gallix, C. Achard, J.M. Bruel, C. Janbon

Service d'Imagerie Medicale (EDM-D,BPG,CA,JMB) and Service de Medecine Interne (CJ), Saint Eloi Hospital, Montpellier, France

ABSTRACT

Purpose: To evaluate the accuracy of computed tomography (CT) scan imaging in distinguishing lymphedema from deep venous thrombosis (DVT) and lipodystrophy (lipedema) in patients with swollen legs.

Material and Methods: CT scans of the lower limbs were performed in 55 patients with 76 swollen legs (44 lymphedemas, 12 DVT and 20 lipedemas). Thirty-four normal contralateral legs were also similarly evaluated. Primary lymphedema was verified by lymphography or lymphoscintigraphy, whereas secondary lymphedema was documented by a typical clinical history. DVT was established by ultrasound Doppler imaging. The diagnosis of lipedema was made with bilateral swollen legs where lymphoscintigraphy and Doppler examination were both unremarkable. Qualitative CT analysis was based on skin thickening, subcutaneous edema accumulation with a honeycombed pattern, and muscle compartment enlargement.

Results: Sensitivity and specificity of CT scan for the diagnosis of lymphedema was 93 and 100%, respectively; for lipedema it was 95 and 100%, respectively; and for DVT it was 91 and 99%, respectively. Skin thickening was found in 42 lymphedemas (95%), in 9 DVT (75%), and in 2 lipedemas (16%). Subcutaneous edema accumulation was demonstrated in 42 legs (95%) with lymphedema and in 5 (42%) with DVT but in none with lipedema. A honeycombed pattern was present only in lymphedema (18 legs or 41%); muscle enlargement was present in all patients with DVT, in no patient with lipedema, and in 4 (9%) with lymphedema.

Conclusion: Edema accumulation is readily demonstrated with plain CT scan and is not present in lipedema. Specific CT features of the subcutaneous fat and muscle compartments allow accurate differentiation between lymphedema and DVT.