ABSTRACT

The aim of this study is to evaluate effectiveness of interstitial magnetic resonance lymphography as an examination for the depiction of the lymphatic system in humans by comparison with direct x-ray lymphography. We studied 14 subjects (two volunteers and 12 patients with clinical suspicion of lymphedema of the lower extremities). We first administered subcutaneous gadobutrol between the toes and performed MR lymphography. After seven days, we injected lipiodol into the lymph vessels of 8 patients and performed x-ray direct lymphography to compare findings of two methods. We identified the normal lymphatic system (lymph vessels and inguinal lymph nodes) of volunteers. In seven subjects, we were able to image an abnormal lymphatic system with decreased number of lymph vessels, lymphoceles, and ectatic lymph vessels. In three subjects we identified both an abnormal lymphatic and venous system and in two patients only the venous system. In all cases x-ray direct lymphography confirmed the findings of the MR lymphography. No side effects were observed from either contrast agent. We expect that in future, interstitial MR lymphography will be improved and evolve into a valuable diagnostic tool for the evaluation of lymphatic diseases particularly those who present with primarily lymphedema in the lower limbs or secondly in regions other than extremities.