البحث الثانى

عنوان البحث

Assessment of post interventional hepatocellular carcinoma using morphological and functional MRI data

Purpose: To evaluate the role of dynamic contrast enhanced and DW MRI in the assessment of response to treatment and detection of residual tumour viability of HCC after TACE and RFA.

Methods and Materials: Pre contrast T1, T2, T2 SPAIR, DWI and dynamic contrast enhanced MRI and colour mapping obtained in 50 patients with HCC (25 post-RFA and 25 post-TACE). Dynamic enhanced & DWIs were assigned confidence levels for post-interventional HCC residue/recurrence and we categorize the patients into resolved and unresolved groups. The sensitivity, specificity, PPV, NPV and accuracy for both the dynamic and the DWI images in post-RFA & post-TACE patients were calculated.

Results: In post-TACE lesions, dynamic MRI had a sensitivity of 90%, a specificity of 100%, a positive predictive value of 100%, a negative predictive value of 93.8% and an accuracy of 96% compared to 100%, 66.66%, 66.66%, 100% and 80%, respectively of DWI. In post-RFA lesions, dynamic MRI had a sensitivity of 100%, a specificity of 92.9%, a positive predictive value of 91.7 %, a negative predictive value of 100% and an accuracy of 96% compared to 100%, 71.4%, 73.3%, 100% and 84% respectively of DWI.

Conclusion: Dynamic contrast enhanced MRI is superior to DWI in evaluating HCC response to locoregional therapy. DWI helps to improve the sensitivity for detecting marginal tumour recurrence after locoregional therapy, especially in indeterminate hyper vascular lesions without definite venous washout. Dynamic study with complementary DWI allow better tissue characterisation