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Cervical Contrast-Enhanced MRA Using Whole Body Coil at 3.0T : Initial Clinical Experience

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목적 : To report initial experience and evaluate feasibility of cervical carotid artery contrast-enhanced MR angiography (CEMRA) using whole body coil at 3.0T

대상 및 방법 : Twenty-eight patients (14 male, ages 41-80, mean age 63) underwent CEMRA at the 3.0T using whole body coil and 3D-FSPGR (TR/TE 6.6/1.3 msec, FA 30, thickness 1.3㎜), and thirty patients (17 male, ages 30-80, mean age 57) underwent CEMRA at the 1.5T using Helmholtz neck coil and 3D FLASH sequence (TR/TE 3.8/1.4msec, FA 35, thickness 1㎜). At both 1.5 and 3.0T, a power injector (Spectris) injected 20ml of gadolinium to the right or left antecubital vein at a rate of 3mL/s. All CEMRA cases were accepted by one neuroradiologiest. We measured the signal intensities at the bifurcation of common carotid artery (CCA), vertebral artery (V2) and two surrounding tissues (ST) and noise at the background in all patients, and also compared contras-to-noise ratios (CNR) of CCA/ST and V2/ST at 3.0 and 1.5T

결과 : Mean CNR of CCA/ST was 50.32 (from 26 to72.89) and 47.77 (from 25.08 to 80.40) at the 3.0T and 1.5 respectively. And Mean CNR of V2/ST was 39.37 (from 29.15 to 60.59) and 36.86 (from 17.2 to 57.11) at the 3.0T and 1.5T respectively.

결론 : Our results show 3.0T is extremely promising for cervical carotid artery CEMRA using whole body coil.