

10. 6 Preliminary Experience with the Blood Pool Agent Gadofosveset for Dynamic Moving Table Peripheral MRA – Comparison with Conventional Agents

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Introduction

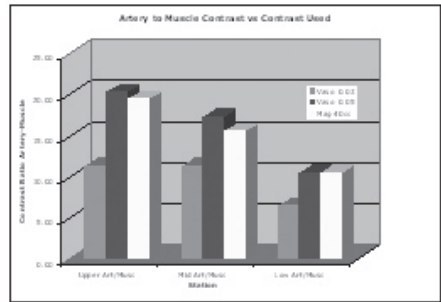
The Blood Pool agent gadofosveset (Vasovist, Epix Pharmaceuticals, Cambridge, MA) is now approved for use in Europe. Although much of the excitement focuses on equilibrium phase imaging, some preliminary work suggests the agent can be effective for dynamic imaging as well. We examine here how dynamic peripheral MRA (pMRA) with Vasovist compares to that with conventional agents.

Methods

Utilizing a previously described 18 channel peripheral vascular coil, pMRA was performed at 1.5T on 16 clinical patients grouped as follows: 6 with Vasovist 0.05 mmol/kg (13-19 cc), 5 with Vasovist 0.03 mmol/kg (6–11 cc), and 5 with Magnevist (fixed 40 cc). Vasovist was uniformly injected at 0.7 cc/sec, with a split bolus of Magnevist - 20 cc @ 1.8 cc/sec followed by 20 cc @ 1.4 cc/sec. Average acquisition times were 10/8/49 sec for the upper, middle, and lower stations. An analysis of artery signal and artery-muscle and artery-fat contrast was performed and statistically analyzed.

Findings

All studies were well-tolerated and diagnostically successful. Average Contrast Ratio ((Art – Musc)/Art) for each agent/dose/station is shown below. Vasovist 0.05 was superior to Vasovist 0.03, achie-



ving statistical significance for the upper/lower station and near significance for the middle station (p=0.005, 0.01, 0.06 respectively). Vasovist 0.05 and Magnevist 40 cc were very similar in contrast (figure) with no statistical difference. Subjectively Vasovist 0.05 images were well-received. Results of artery-to-fat contrast ratios as well as CNR were similar.

Discussion

Moving Table pMRA with Vasovist can easily equal that performed with standard Gd agents, but then allows for the option of equilibrium-phase imaging. A higher dose (0.05 mmol/kg) is more effective than the approved dose (0.03 mmol/kg). More sophisticated infusion strategies may further improve Vasovist pMRA.