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Effects of Iodinated Contrast on Various MRI Sequences and Field Strength: Implications for Characterization of Hemorrhagic Transformation in Acute Stroke Therapy.

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Please find our answers below and our changes highlighted (underlined) in the manuscript text:

Reviewed by 02548806

A good designed study with nice figures. It positively has evaluated the sequences detecting hemorrhage like GRE and FLAIR (with lacking SWI). ***I would like to see the images of phantoms acquired with FLAIR sequence also we only use this sequence for detecting SAH. ***Also could the author describe what should we expect in the normal brain since there is no blood brain barrier break down and pathologic brain especially in the parenchymal hematomas and SAH

Authors' answer:

Thanks for reviewing and suggestions! A phantom FLAIR image was added on figure 1. Changes in the brain to include parenchymal hematomas and SAH were also added on discussion section (paragraph 4 and 6)

Reviewed by 02635498

The authors performed a study to evaluate the effects of IRCM on MR Imaging comparing different sequences and magnetic fields, with emphasis to similarities / differences with well-known signal characteristics of hemorrhage in the brain. They concluded that T1 and T2 shortening effects of iodixanol and iopamidol are present at both 1.5 and 3T. Hypo-intensity on T2 is significantly more conspicuous than signal changes on T1-WI, FLAIR or GRE. This is well designed and written study about the iodinated contrast media effect on various MRI sequences. There are some minor issues that must be revised by the authors. The

overall structure of the manuscript needs editing by a native English speaker. The description of the IRCM abbreviation “iodinated radio contrast media (IRCM)” could be more suitable. In Introduction section, the sentence needs grammar editing “Reported relaxation times / signal changes of iodinated contrast can potentially overlap with know relaxation times / signal changes of blood [1]” In material and method section, “Aliquots of iopamidol (300 mgI/mL) and iodixanol (320 mgI/mL) mixed with normal saline (NS)....” Why did the authors use different concentration of the contrast media, 300 mgI/mL versus 320 mgI/mL? Is there any effect of this difference in signal intensity on different MRI sequences?

Authors' answer:

Thanks for reviewing and suggestions! The entire manuscript was reviewed for grammar errors, particularly the mentioned sentence. We changed the abbreviation to ICM (iodinated contrast material) throughout the manuscript. Iopamidol is available in USA in three concentrations: 200, 300 and 370 mgI/mL, while iodixanol in two concentrations: 270 and 300 mgI/mL. We used concentrations as similar as possible; nevertheless we also reviewed the discussion accordingly and mention the differences and potential effects on paragraph 8.

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