Reviewer’s report

Title: The use of non-contrast-enhanced MRI to evaluate serial changes in endoleaks after aortic stenting: a case report

Version: 0 Date: 21 Jul 2019

Reviewer: Karolina Dorniak

Reviewer's report:

The case report by Lee et al. addresses an important issue, i.e long term imaging surveillance of complex and/or dynamic vascular disorders, such as aortic dissection post endovascular aortic aneurysm repair, in patients with contraindications to contrast use.

There is an increasing body of literature to support the value of advanced magnetic resonance imaging in the assessment of complex vascular anatomy and physiology. Magnetic resonance has unparalleled ability in this regard with the increasing availability of dynamic contrast enhanced MR angiography and recent advent of non-contrast 4D PC MRI. However, the latter technique is not commonly available as yet and the expertise seems limited to larger centers. Therefore, it seems reasonable to discuss its value in various clinical scenarios.

The case is well described, addresses an important clinical concern and in the reviewer's opinion the work could be of value for the readership of the BMC Medical Imaging. Therefore, the recommendation is 'accept with minor revisions'

Minor issues to be addressed by the Authors:

1. Consider adding a sequence describing the essential features of 4D PC MRI (i.e. single scan allowing for both lumen anatomy and flow information in the entire aortic volume over time with flow velocity encoded in 3 directions)

2. Line 23: consider rewording/expansion of the initial treatment procedure description

3. Line 44: ‘…..was thus inappropriate, as the contrast is nephrotoxic". The phrase as the contrast is nephrotoxic should be removed or replaced as it is imprecise in this context- it implies that also gadolinium contrast is directly nephrotoxic
4. Line 53: was the coil embolization of the aneurysmal sac effective? Are follow-up images available?

5. Line 56: the sentence „However, possible nephrogenic fibrosis must be considered when weighing contrast-enhanced CTA or MRA for patients with CKD(10)” requires correction for the same reasons as pointed out for line 44 above, e.g. it is MR (and not CT) contrast media use that is related to NSF cases.

6. Reference to Figure 4 seems to be missing from the text- to be added.

**Are the methods appropriate and well described?**

If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**

If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**

If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**

If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript
Quality of written English

Please indicate the quality of language in the manuscript:

Acceptable

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