Reviewer's report

Title: Hybrid SPECT/CT for the assessment of a painful hip after total hip arthroplasty

Version: Date: 23 February 2015

Reviewer: Thomas M Randau

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MINOR ESSENTIAL:

re 1 a+b) So I understand that the study was of retrospective design, analyzing your own clinical routine algorithm. I personally disagree that "CT [. is] regarded as standard diagnostic procedures in cases of hip pain after THA", but that is debatable.

Can you please include in P.4 L. 6 below a brief description of your algorithm and indications for SPECT-CT with references that confirms the use of SPECT-CT as a routine procedure in patients with pain after THA

You included retrospectively "consecutive" patients - does that mean what is given in the paper as "inclusion criteria" was then actually the indication to perform a SPECT-CT or did 23 consecutive patients with a SPECT-CT meet the inclusion criteria?

Please briefly state in the manuscript.

re 2) Please include this (for example on P6L11) in the manuscript

re 3) I acknowledge your viewpoint, but still remain adamant that Infection should be outruled in these cases with all possible measures, including invasive diagnostics.

I'd recommend mentioning low grade infection as a possible source of pain in those cases where no other reason was found, since you cannot rule it out.

Results and Conclusion should clarify the limitation of your study that you can only assess patients with painful THA when PJI has been ruled out by other diagnostic means (P2L28/29: "SPECT/CT holds great potential for imaging-based assessment of painful prostheses"; P12L16/17 or line 19, add "..and PJI has been ruled out").

re 4) Acknowledged.

I understood the risk of 5% per Sv was for "lethal cancers", however i cannot draw the quote that my calculations were based on, and lack expertise in this area to continue into deeper arguements on this. Maybe include a brief paragraph on the "risks / benefits" discussion in the manuscript to allow the reader a weighted judgement of the issue.
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests