Reviewer's report

Title: Clinical value of SPECT/CT for evaluation of patients with painful knees after total knee arthroplasty- a new dimension of diagnostics?

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Reviewer: Kinner Davda

Reviewer's report:

This is a well written study of an interesting and valuable use of new technology. The paper is written well and the primary hypothesis is justly answered. The methodology and statistical analysis is appropriate, followed by a well judged and balanced discussion of the study versus the literature. Papers regarding the use of SPECT/CT remain limited in number and this current study will surely be a helpful contribution.

Discretionary Revision

There were however several points regarding methodology:

1. The focus of this article hinges on the use of SPECT/CT as an adjunct to a clinical diagnosis. It is unclear whether a single investigator or senior author reviewed each of these patients prior to SPECT/CT. Some form of multiple investigator agreement would be of value to reduce observer bias.

2. Regarding 'Table 1', 'anterior knee pain' cannot be considered a preoperative diagnosis, but rather a description of a symptoms

3. The author refers to the use of a high ICC as a measure of method agreement. A Bland Altman analysis would be a more revealing examination of inter and intra observer reliability. A high ICC does not necessarily equate to high level of observer agreement.

4. The authors use a Mann Whitney test to examine non parametric data, hence median and not mean values should be stated in the subsequent results tables.

5. A figure demonstrating the CT measurements made would be of value to the reader who is unfamiliar of how such measurements are made in 3D reconstructed images.

6. It is unclear what contribution the second (PK) and third author (FI) made from the 'Contribution' statement at the end of the paper.

A future study would be strengthened by the use of a functional outcome scores, such at the Oxford, pre and post surgery.

Overall, I found this is a good article and would recommend it for publication. This would be of interest to orthopaedic and radiology colleagues, investigating the cause of postoperative pain from a total knee arthroplasty.
**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.