

Response to Reviewer (**Reviewer's code:** 03518978)

1. RE: "Magnetic resonance imaging is a commonly used imaging modality to detect early osteonecrosis. When MRI is inconclusive, bone scan is also helpful in detecting osteonecrosis during early phase of the disease." The majority of bone scans that are done are non-specific and they are not better than an MRI in diagnostic accuracy for the osteonecrosis. The use of "bone scan" is too general here. Compared to an MRI, the 18F-fluoride PET/CT bone scan may have similar sensitivity but lower specificity. MRIs usually have both higher sensitivity and specificity when compared with other bone scan modalities.

Ans: The authors understand that planar bone scan is non-specific and already mentioned in the manuscript that "However, a planar bone scan has its own limitations of low specificity due to difficulty in distinguishing osteonecrosis from fractures, transient osteoporosis or other conditions" (highlighted). But, authors addressed the point that with this limitation of non-specificity could be overcome with the help of hybrid imaging such as SPECT-CT and PET-CT, which is currently upcoming field in nuclear medicine. These hybrid modalities provide both functional and morphological information.

2. There is a little bit concern of the format of current review. It was not a systematic review; did authors follow the format of a prospective review? How did the authors choose the papers to be summarized?

Ans: Yes, we admit that this is not a systematic review. This is an overall review of emerging modalities like SPECT-CT and PET-CT that can be helpful in AVN.

3. RE: "Early recognition of the disease is essential because early surgical core decompression of the femoral head may arrest progress of the disease and prevent collapse of the head." As it is still controversial that early surgical core decompression of the femoral head may arrest progress of the disease and prevent collapse of the head, it is better to remove the last part.

Ans. The last part has been removed and changed to "Early recognition of the disease is essential for better patient management".

Response to Reviewer (**Reviewer's code: 00467031**)

1. The authors concluded that SPECT/CT and PET/CT, are now widely available in routine clinical practice. Is the data sound without statistical analysis? Are there sufficient data to support the conclusion?

Ans. In the conclusion, we have mentioned that “there is scarcity of literature”. Regarding the wider availability of modalities in routine practice, authors mentioned with their own experience with growing use of SPECT-CT and PET-CT in India. However, we admit that there is no published data. So, the sentence “As newer nuclear medicine equipment, like Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT) and Positron Emission Tomography/ Computed Tomography (PET/CT), are now widely available in routine clinical practice, we review the role of these imaging modalities in ON of femoral head” in the abstract has been changed to “As newer nuclear medicine equipment, like Single Photon Emission Computed Tomography/Computed Tomography (SPECT/CT) and Positron Emission Tomography/ Computed Tomography (PET/CT), are emerging in medical science, we review the role of these imaging modalities in ON of femoral head.”

2. Is Table 1 necessary when two obvious groups?

Ans. Table 1 is removed and content is added in the text.

3. Editing is required.

Ans. Changes made in the manuscript.