

Response to reviewers

Reviewer #1:

Comment: Work is good, idea is very important and common problem in the daily work. findings are interesting.

Authors' response: We appreciate the reviewer appreciating this common problem in radiology.

Reviewer #2:

In this MS, the authors studied the PET/CT imaging appearance and intensity of benign and classic osseous lesions.

Comment: Some issues existed. 1. Title: This title is not good and is confusing. It seems that the authors would like to use a very interesting title to attract the authors' attention but unsuccessful. Please change it to a common title with focus on the main purpose of this article. Moreover, the title said that it will describe "PET/CT imaging appearance AND INTENSITY of benign and classic "do not touch" osseous lesions" .

Authors' response: We changed the title to **"PET/CT imaging appearance of benign and classic "do not touch" osseous lesions"**. The phrase "do not touch osseous lesions" was first given by Professor Clyde Helms author of "Fundamentals of Diagnostic Radiology". This book is the primary text used for most radiology residency programs. We thought that the term "do not touch osseous lesion" would be familiar to the reviewer since it is used internationally and even shows up on a simple search using google. We apologize for this oversight. This is the term most likely to be searched for by practicing radiologists. The intensity we referred to was related to the SUV of the lesions. This data was presented.

Comment: However, there is no imaging description of the imaging appearance.

Authors' response: We described the imaging appearances are now described in detail in the discussion.

Comment: What does “do not touch” mean? Malignant? Benign? Please use a more common word for this.

Authors' response: The term “do not touch” was coined by Dr. Clyde Helms, and refers to lesions that the radiographic/CT appearance is pathognomic, however, additional diagnostic tests, biopsies and surgery may be misleading, potentially harming the patient. This is an unambiguous and common term in the musculoskeletal radiology community. The “do not touch” osseous lesions are mostly benign osseous lesions, however some may rarely undergo malignant degeneration. The manuscript has been updated to make this clearer in resubmitted version.

Comment: 2. Abstract: In this part, the authors said that -----to separate benign and malignant osseous lesions. However, there are no data regarding malignancy.

Authors' response: “We changed this sentence to “The aim of the study is to show that “do not touch” and benign osseous lesions can have increased 18F-FDG uptake above blood-pool, therefore the CT appearance of these lesions should dictate management rather than the standardized uptake values (SUV)” as suggested by the reviewer.

Comment: The conclusion regarding “the CT appearance of these lesions” is not appropriate. There are only benign data in this article. So the title and the abstract are not good for this article.
Comment: 3. Core tip is also to separate benign and malignant osseous lesions. Confusing.

Authors' response: We revised the abstract to correct the concerns expressed by the reviewer. We have just noted that some radiologists think that everything that is hot on PET is malignant – and we collected and analyzed data to show that this is not true.

Comment: 4. Introduction: At the end of this part, the authors used “the purpose of this study-----” and later “ the aim of this study is to show-----“. Please combine these two sentences together to make one meaningful statement.

Authors' response: We edited this paragraph so that it reads better. "There are no prior reports demonstrating the spectrum of ^{18}F -FDG uptake patterns of several common benign skeletal osseous lesions with identifiable CT imaging characteristics. If this data existed, then it could be used as a guide for physicians that primarily interpret ^{18}F -FDG PET/CTs and to eliminate referral of these benign lesions for biopsies. The aim of the study is to show that "do not touch" and benign osseous lesions can have increased ^{18}F -FDG uptake above blood-pool, therefore the CT appearance of these osseous lesions should dictate management rather than the PET/CT standardized uptake values (SUV)."

Comment: 5. RESULTS: In this part, the authors said that "there were 287 patients with either classic "do not touch" lesions or classic benign lesions. Please state the meaning of "do not touch". Does it mean malignant? Benign?

Authors' response: The term "do not touch" was coined by Dr. Clyde Helms, and refers to lesions that the radiographic/CT appearance is pathognomic, however, additional diagnostic tests, biopsies and surgery may be misleading, potentially harming the patient. This is an unambiguous and common term in the musculoskeletal radiology community. The "do not touch" osseous lesions are mostly benign osseous lesions, however some may rarely undergo malignant degeneration. The manuscript has been updated to make this clearer in resubmitted version.

Comment: 6. Table 1: Please add the imaging appearance in table 1.

Authors' response: The CT imaging appearance is pathognomic for these lesions. We did not want to clutter Table 1 with information in the Discussion. We reported on the PET image intensity of these lesions in Table 2.