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Respiratory Muscle ^{18}F-FDG Uptake

TO THE EDITOR: I read with great interest the recent article of Osman et al. entitled "Does ^{18}F-FDG Uptake by Respiratory Muscles on PET/CT Correlate with Chronic Obstructive Pulmonary Disease?" (*1*). Although the article is informative and educational, I would like to add my personal points of view to it.

The final goal of all imaging modalities is the benefit and health of patients, and therefore there is no doubt that all the information that can be obtained from the images should be evaluated and reported. In this regard, imaging findings from the respiratory muscles could be potentially helpful to inform the referring physician of the status of the patient's respiratory effort. From this perspective, the results of the current study are important and should proceed to clinical practice.

The authors have stated that "patterns of ^{18}F-FDG muscle uptake may help identify, at least qualitatively, the presence of [chronic obstructive pulmonary disease (COPD)]." In my opinion, such a conclusion potentially could be modified, as increased ^{18}F-FDG uptake by respiratory muscles does not necessarily translate to the presence of COPD. Such uptake could just represent respiratory effort and the level of function of respiratory muscles. Therefore, such a marker of respiratory effort can be affected by a remarkable number of confounding factors, such as patients' level of anxiety (which is not uncommon for patients who are not familiar with the medical environment of a nuclear medicine facility). The increased respiratory effort is also not limited to COPD, as other diseases such as restrictive lung disorders and even pleural effusions can manifest with the same feature.

The authors have used mediastinum as the reference tissue. Although this choice is a good strategy to reduce the confounding factors, I would like to recommend adding one of the other body muscles as a point of reference, too. If another muscle is considered as the reference tissue for comparison, we can easily determine whether uptake is increased in the body muscles overall or only in the respiratory muscles, as a distinctive PET study finding.

REFERENCE

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