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Letter

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Is PET/CT an alternative to conventional cancer screening in dermatomyositis/polymyositis?

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Abstract

A recent report suggests that FDG-PET/CT is a good alternative to conventional malignancy screening in patients with inflammatory myopathies. However interesting, this may be a premature conclusion, as the equivalence of both strategies for the detection of certain types of cancer still has to be proven.

Key words: Cancer, myositis, PET/CT, screening.

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Dear Editor,

Population-based studies from different countries have confirmed the increased risk of malignancies among patients with inflammatory myopathies.[1-3] Therefore, malignancy screening is recommended in this population, but there is no consensus regarding how and how often these patients should be screened. Positron emission tomography (PET) using (18F) fluorodeoxyglucose (FDG), combined with computerized tomography (FDG-PET/CT), is emerging as a highly sensitive imaging technique for diagnosing, staging and monitoring treatment effects in oncology.[4] However, the role of this modality in screening patients with dermatomyositis (DM) or polymyositis (PM) is uncertain.

In a prospective study of 55 patients diagnosed with inflammatory myositis, Selva-O'Callaghan and co-authors concluded that both FDG-PET/CT and conventional screening (thoracoabdominal CT, mammography, gynecologic examination, ultrasonography, and tumor markers), are comparably effective for the detection of occult malignancy (predictive positive value (PPV) of 85.7 and 77.8 percent and negative predictive value (NPV) of 93.7 and 95.7 percent, respectively).[5] They suggest that FDG-PET/CT is a good alternative to conventional cancer screening in this population, with the added advantage of a single imaging non-invasive procedure.

We believe this study is of the greatest interest, but that its conclusions may be slightly premature. First, four patients had an inconclusive FDG-PET/CT result and authors chose to consider these equivocal results as negative when calculating predictive values. However, in clinical practice, equivocal results will likely be considered positive until proven otherwise. If inconclusive results were considered as positive, the PPV of FDG-PET/CT, which is the proportion of patients with abnormal FDG-PET/CT testing who were correctly diagnosed, would decrease to only 54.5%, leaving almost half the patients in the stressful position of having an erroneously positive cancer testing.

One could argue the value of FDG-PET/CT lies in its capacity to rule out (high NPV) the presence of occult malignancy. However, it has to be noticed that only five types of cancer (breast, lung, colon, vagina, pancreas) were represented in this article and certain malignancies highly associated with inflammatory myopathies (for example, cervix, ovary, bladder

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nasopharynx or stomach cancers), did not occur in this study. Thus, the equivalence of both modalities for the detection of these types of cancer in DM and PM patients remains to be proven. Also, we should underline that the vaginal carcinoma had been missed by FDG-PET/CT, while it was detected by gynaecologic examination.

Therefore, although the authors' suggestion is valid and logical, much more additional studies are needed before concluding that FDG-PET/CT can replace conventional screening in patients with inflammatory myopathies. At this time, a large, prospective, collaborative, public-fund supported study comparing both strategies could only be conducted through the International Myositis Assessment and Clinical Studies Group (IMACS),[6] in order to provide the critical numbers necessary to adequately assess the sensitivity and specificity of FDG-PET/CT for the whole spectrum of malignancies associated with myositis.

While waiting for the results of that study, since using both strategies exposes the patients to a significant amount of radiations, a reasonable approach could be to perform a FDG-PET/CT in replacement of conventional CT, while still performing some of the conventional investigations, including careful history and physical examination, laboratory testing, abdomino-pelvic ultrasound and gynecologic examination. Although the optimal screening frequency is not determined yet, a cautious strategy would be yearly screening for 3 to 5 years.[1,2,7] Finally, the role of the recently described autoantibody against a 155-kD protein, which seems to be related to paraneoplastic DM, could be evaluated in that future IMACS study.[8]

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