

عنوان مقاله:

Diagnostic agreement between clinical criteria and disease activity in Takayasu's arteritis by ^{18}F -FDG PET-CT scan

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خلاصه مقاله:

Introduction: Large Vessel Vasculitis (LVV) is a chronic inflammatory process that affects the aorta and its main branches. LVV include Takayasu's Arteritis (TA) and Giant Cell Arteritis (GCA). The diagnosis of TA is made according to clinical criteria and based on the criteria of the American College of Rheumatology (ACR). Monitoring of disease progression and response to treatment is also done using the National Institutes of Health (NIH) criteria. Despite these criteria, diagnosing and evaluating TA activity is a challenging issue and usually occurs in the advanced stages of the disease. The lack of a comprehensive and non-invasive diagnostic method for diagnosing and monitoring the course of TA is obvious. The aim of this study was to evaluate the diagnostic agreement between ^{18}F -FDG PET-CT scan and clinical criteria for assessing TA disease activity. **Methods:** Twenty-four known cases of TA, who met the inclusion criteria, were enrolled in this study. The disease-related constitutional signs and symptoms, as well as laboratory and imaging findings were recorded. Patients underwent ^{18}F -FDG PET-CT imaging with standard protocol. Fused PET-CT images were reviewed and, if necessary, images without attenuation correction were visualized as well. Also, 24 control patients of the same age and sex, among the patients who were referred to the imaging center for oncological indications were examined to compare the uptake of different vascular territories. **Results:** Out of 15 active patients (according to the NIH criteria), ^{18}F -FDG PET-CT scan was able to correctly identify 14 patients. Also, out of 9 inactive patients, PET scan was negative in eight patients showing that ^{18}F -FDG PET-CT scan could well differentiate between active and inactive status of the disease ($p\text{-value} < 0.0001$). Sensitivity, specificity, positive

predictive value and negative predictive value of scan in this study were ۹۳.۳%, ۸۸.۹%, ۹۳.۳% and ۸۸.۹%, respectively. The study also showed that the severity of vascular lesion uptake was not affected by immunosuppressive drugs, including corticosteroids and methotrexate. Scan findings were comparable with the results of anatomical imaging in terms of disease activity and the number of vascular lesions with p-value = ۰.۱ and ۰.۳۰۴, respectively. Conclusion: In this study we showed that ۲-[۱۸F]FDG PET-CT has comparable results with other imaging modalities and NIH criteria; therefore, it can play an important role in assessing the severity of TA, even when patients are on immunosuppressive drugs

کلمات کلیدی:

Vasculitis, Takayasu's arteritis, ۲-[۱۸F]FDG PET-CT scan, Disease activity

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