

limits and aorta were less in benign RPF, however, significant differences were only observed when comparing with lymphoma (p values: all <0.001) but not with metastatic carcinoma (p value: 0.396, 0.181, 0.112 and 0.64). A greater frequency of retroperitoneal lesions with high FDG-uptake (100% vs 77.5%, p value: 0.017) and a higher mean SUVmax (12.2 vs 4.8, p value: <0.001) were observed in malignant RPF. The frequencies of LNs with high FDG-uptake were greater with significance in malignant RPF except for hilar/mediastinal and cervical LNs, hence the rest LNs were regarded as specific LNs. At ROC analyses, the AUCs of SUVmax and specific LNs were 0.893 and 0.947. The sensitivity and specificity were 85.7% and 81.4% when the SUVmax was 6.23. The AUC of logistic regression model combining SUVmax and specific LNs was 0.974 with sensitivity of 90.5% and specificity of 90.1%.

Conclusions: PET/CT could help distinguish benign from malignant RPF, especially when taking into account the FDG-uptake of retroperitoneal process and LNs.

Disclosure of Interest: None declared

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FRI0305 RELATIVE FDG ACCUMULATION OF THE AORTIC WALL LESIONS TO AORTIC BLOOD POOL IN 18F-FDG-PET AND PET/CT COULD BE A USEFUL PARAMETER FOR THE PREDICTION OF DISEASE RELAPSE AFTER SUCCESSFUL TREATMENT IN TAKAYASU ARTERITIS

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Background: The assessment of disease activity of Takayasu arteritis (TA) is difficult if symptoms and serum inflammatory marker were not detected. Even in those conditions, relapses were frequently observed during the dose reduction of corticosteroid and immunosuppressant. There is accumulating evidence that 18F-fluorodeoxyglucose-positron emission tomography (FDG-PET) and PET/computed tomography (PET/CT) is useful for monitoring patients with TA when TA was clinically active. However, it is not clear the significance of FDG accumulations when TA was inactive.

Objectives: To investigate a quantitative predictor in FDG-PET or PET/CT scans for the relapse of TA.

Methods: We retrospectively investigated 76 FDG-PET or PET/CT scans and extracted 37 scans which were performed in inactive status. These scans were divided in two groups according to relapse of TA for 5 years. The relapse was defined the increase of CRP and steroid dose or addition of immunosuppressant. FDG accumulations in aortic wall lesions of TA was evaluated by semi-quantitative index; the standardized uptake value (SUV). In addition to SUVmax in the aortic wall, we also calculated SUV ratio of maximum aortic wall uptake to mean lung uptake (ratio Lu), SUV ratio of maximum aortic wall uptake to mean liver uptake (ratio Li), and SUV ratio of maximum aortic wall uptake to mean aortic blood pool uptake (ratio BP). We compared groups using these parameters. We also determined the cutoff levels, sensitivity, and specificity of 4 sets of SUVs (SUVmax, ratio Lu, ratio Li, and ratio BP) for the prediction of relapse using Receiver Operating Characteristic (ROC) analysis. Moreover, Kaplan-Meier analysis for the long-term relapse-free survival was performed to assess the reliability of these cutoff levels.

Results:

Table 1. Characteristics of two groups

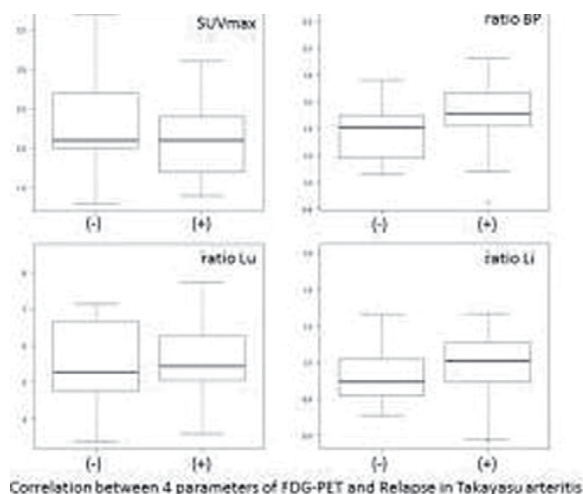
Relapse #	(-)	(+)
Age (yr)	47 [30–72]	28.5 [14–68]
CRP (mg/dl)	0.13±0.03	0.13±0.03
Steroid dose (mg/d equivalent to prednisolone)	15.6±2.4	17.7±3.6
Immunosuppressant	2/17	7/35
Duration until relapse (Days)		702.5 [4–1769]

In 37 total PET and PET/CT scan examinations, non-relapse and relapse groups included 17 and 20 scans, respectively. Relapse group had more immunosuppressant users than non-relapse group. Although CRP level and SUVmax were equivalent, ratio of SUV, especially ratio BP of relapse group was higher than that of non-relapse group ($p=0.09$) (Figure top panel). The cut-off level of these parameters was calculated as follows; SUVmax 1.4, ratio Lu 5.31, ratio Li 1.01, and ratio BP 1.41, respectively. Using these cut-off level, relapse rates of below and over cut-off level were as follows; SUVmax 50% vs 54%, ratio Lu 43% vs 62%, ratio Li 43% vs 69%, and ratio BP 31% vs 67%, respectively (Figure middle panel). Using Kaplan-Meier analysis, relapse rate of these two groups divided by ratio BP was not significantly different ($p=0.268$) though these two curves looked different (Figure bottom panel).

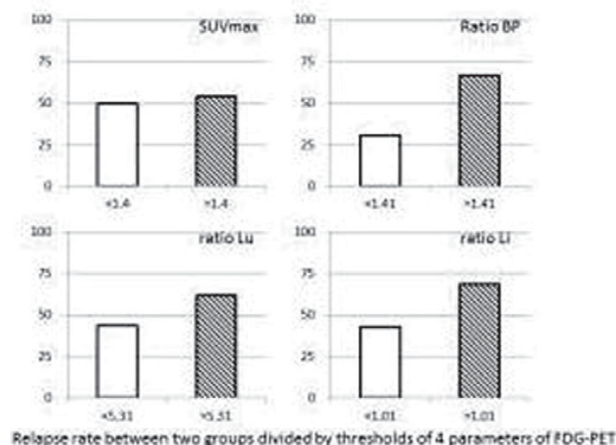
Conclusions: Our data suggest that ratio BP at stable condition, which represents relative FDG accumulation of the aortic wall lesions to aortic blood pool, could be a promising predictor to assess the relapse after successful treatment.

Disclosure of Interest: None declared

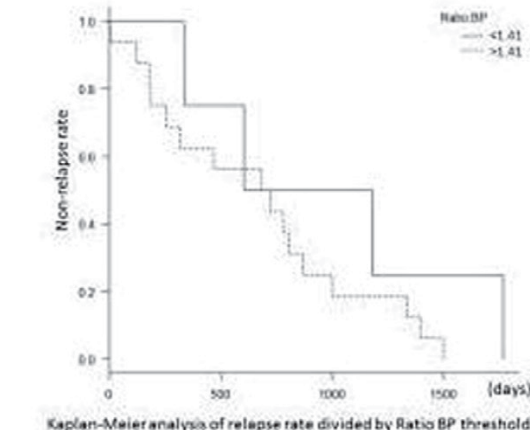
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Correlation between 4 parameters of FDG-PET and Relapse in Takayasu arteritis



Relapse rate between two groups divided by thresholds of 4 parameters of FDG-PET



Kaplan-Meier analysis of relapse rate divided by Ratio BP threshold

Abstract FRI0305 – Figure 1

FRI0306 LONG TERM DRUG-FREE REMISSION IS FEASIBLE IN SEVERE BEHCET'S DISEASE AFTER CESSATION OF SUCCESSFUL ANTI-TNF TREATMENT: A SINGLE CENTER, RETROSPECTIVE LONGITUDINAL OUTCOME STUDY

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Background: The efficacy of anti-TNF treatment for patients with severe forms of Behcet's disease (BD) is well established (ref), but long term data on the outcome after cessation of such treatment are lacking.

Objectives: To examine whether sustained long term remission of severe BD is feasible after cessation of successful anti-TNF treatment.

Methods: This retrospective longitudinal outcome study was conducted in December 2016 and included all patients with severe BD refractory to conventional immunosuppressive therapy who were considered complete responders to continuous anti-TNF treatment in our center, the first being treated in 2000.