and relapse rate ($p=0.137$) were not significant between the different treatment groups.

Abstract FRI0490 – Table 1. Risk factors affecting survival according to Cox regression analysis

Risk factor	Hazard ratio	95% CI	P value
Age ≥ 75 years old	2.35	(1.1–5.03)	0.027
BVAS [*] ≥ 20	2.08	(0.99–4.32)	0.05
Creatinine ≥ 1.5 mg/dl	1.18	(0.58–2.38)	0.654
Early severe infection	3.23	(1.63–6.48)	<0.001

*Birmingham Vasculitis Activity Score (BVAS) Version.3

Abstract FRI0490 – Table 2. Risk factors affecting early severe infection in non-severe AAV patients

Risk factor	Hazard ratio	95% CI	P value
Age ≥ 75 years old	2.1	(0.85–5.32)	0.105
Conventional treatment	3.0	(1.11–7.89)	0.030
Lung involvement	1.0	(0.43–2.48)	0.936
Creatinine ≥ 1.5 mg/dl	1.0	(0.41–2.33)	0.963

Conclusions: Early severe infection is an independent predictor of death in patients with AAV, and conventional treatment has a potential risk of death due to severe infection. This study supports the current EULAR recommendation that several treatment strategies are recommended according to the disease severity of vasculitis.⁵ AAV patients who receive conventional treatment should be carefully monitored to reduce the occurrence of severe infection, especially in early phase of treatment.

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FRI0491

SMOKING AS A RISK FACTOR FOR GIANT CELL ARTERITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Background: Tobacco smoking is a well-established risk factor for the development of several autoimmune diseases such as rheumatoid arthritis and systemic lupus erythematosus. A similar association between smoking and giant cell arteritis (GCA) has been suspected but remains unclear due to limited study size and conflicting epidemiologic data.

Objectives: To conduct a systematic review and meta-analysis to further investigate the association between smoking and the development of GCA.

Methods: Two investigators (D.B. and M.K.) independently searched published studies indexed in MEDLINE and EMBASE from inception to February 2017 using the terms “giant cell arteritis,” “temporal arteritis,” “cranial arteritis,” and “Horton disease.” Recent conference abstracts available online were also reviewed. The following inclusion criteria were used: 1) original observational study comparing patients with GCA to healthy controls; 2) inclusion of smoking history; 3) provision of absolute numbers and/or statistical comparisons with 95% confidence intervals. Study eligibility was independently determined by the two investigators, with disagreements reviewed by a third investigator (P.U.) and resolved by consensus. RevMan 5.3 software was used for the data analysis. Point estimates and standard errors were extracted from individual studies and were combined by the generic inverse variance method of DerSimonian and Laird. Given the high likelihood of between-study variance, we used a random-effect model rather than a fixed-effect model. Statistical heterogeneity was assessed using the Cochran’s Q test.

Results: The initial search yielded 3312 articles. Of these, thirteen studies (8 prospective and, 5 retrospective case-control studies) with unique cohorts were identified and included in the primary analysis (ever vs. never smoking history). Patients in the GCA cohort were more likely to have a history of smoking with an odds ratio of 1.19 (95% CI, 1.01–1.39) [figure 1A]. Considerable heterogeneity

was present ($I^2=85\%$). Five of these studies included information on current smoking status. One additional study, which only reported current smoking status, was also included. The GCA cohort showed an association with current tobacco use with an odds ratio of 1.18 (95% CI, 1.01–1.38) [figure 1B].

Conclusions: Our study demonstrated a statistically significant increased risk of GCA among smokers compared to non-smokers.

Disclosure of Interest: None declared

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FRI0492

CLINICAL CHARACTERISTICS OF PARENCHYMAL NEURO-BEHCHET'S DISEASE: A RETROSPECTIVE ANALYSIS

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Background: Neurological involvement is one of the most serious complications in Behcet's disease (BD).

Objectives: To investigate the clinical characteristics of parenchymal neuro-Behcet's Disease (pNBD).

Methods: We retrospectively reviewed all the medical records of BD patients who were admitted to our institute between 2000 and 2016. The diagnosis of NBD was based on the 2014 International Consensus criteria for NBD.¹ Eighty-four BD patients without neurological involvement were randomly matched by sex and age as control.

Results: 42 patients (25 male and 17 female) with pNBD accounted for 4.2% of the 1009 hospitalised BD patients during that period. The mean age at BD onset and at neurological onset was (30.1 $\pm$ 11.1 years old and (35.3 $\pm$ 12.1 years old, respectively). The majority of patients developed neurological symptoms after other initial systemic symptoms of BD in a median period of 2 months (range from 0–49). Neurological onset was concomitant with the onset of BD in 6 cases (14.3%). The most frequent location was brainstem (23/42, 54.8%). Spinal cord involvement was presented in five cases, in which four with cervical cord involved. 13 cases suffered from multiple lesions. Pyramidal (21/42, 50.0%) and headache (14/42, 33.3%) were the most common manifestations of pNBD. Lumbar puncture was performed in 40 patients, in which 80% (32/40) of patients had normal pressure and 55% (22/40) had elevated protein levels ((0.51 $\pm$ 0.24) g/L). Compared with the controls, the prevalence of ocular involvement (uveitis, retinal vasculitis, scleritis) was significantly higher in pNBD (35.7%) ($p=0.041$, OR=2.36, 95% CI=1.03–5.44) (table 1). Cranial MRI in 32 patients showed the lesions were mainly in the midline structures, including brainstem (22/42, 52.4%), periventricular (13/42, 31.0%), centrum semiovale (8/42, 19.0%). Typically, the lesions were in hypersignal in T2. All pNBD patients received corticosteroids (≥ 1 mg/kg/d) and 23 patients (54.8%) received the pulse dose (1 g/d). Cyclophosphamide was the most commonly used immunosuppressant (39/42) and 10 cases took more than one immunosuppressants (including methotrexate and azathioprine). Biological agents were administered in six refractory pNBD patients, including Infliximab in 4 cases, Tocilizumab in 1 case, and Interferon- $\alpha 2a$ in 1 case. Intrathecally injection of dexamethasone 10 mg and methotrexate 10 mg was given to 28 patients. With a median follow-up of 28 months (4 to 156 months), 22 patients (52.4%) achieved clinical improvements, while 10 patients (23.8%) relapsed and 4 patients died (the mortality was 9.5%). Six patients lost to follow up.

Table 1. Clinical Comparison of pNBD and BD without neurological involvement^a

Parameters	pNBD (n=42)	Controls ^b (n=84)	P Value	OR(95%CI)
Age (years, mean±SD)	36.3±11.6	35.2±10.9	0.601	1.01 (0.98-1.04)
Gender (F/M)	25/17	50/34	1.000	—
Clinical Features of BD				
Oral Ulceration	42 (100%)	84 (100%)	1.000	—
Genital Ulceration	27 (64.3%)	61 (72.6%)	0.337	0.68 (0.31-1.50)
Skin Lesions	19 (45.2%)	40 (47.6%)	0.801	0.91 (0.43-1.91)
Gastrointestinal lesions	3 (7.1%)	17 (20.2%)	0.058	0.30 (0.08-1.10)
Ocular involvement ^c	15 (35.7%)	16 (19.0%)	0.041*	2.36 (1.03-5.44)
Vascular involvement	6 (14.3%)	10 (11.9%)	0.705	1.23 (0.42-3.66)
Laboratory tests				
ESR(mm/h, median and range)	15(0-85)	11(1-80)	0.072	1.01(0.99-1.03)
CRP (mg/L, median and range)	3.0(0.14-124)	3.3(0.13-104)	0.995	1.00 (0.98-1.02)

OR= Odds Ratio; CI=Confidential Interval.

^aValues are the number (percentage) unless otherwise indicated.^bEighty-four age- and gender-matched BD patients without neurological involvement were served as control.^cOcular involvement includes uveitis, retinal vasculitis, scleritis.

*P<0.05.

Conclusions: The parenchymal neurological involvement is a rare complication of BD with a high mortality. Its most frequent location is brainstem. Ocular involvement is a risk factor for pNBD. Early identification and active treatment are vital for a good prognosis.

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FRI0493

PET/CT IN PATIENTS WITH GIANT CELL ARTERITIS AFTER 1 YEAR OF TREATMENT WITH TOCILIZUMAB PLUS PREDNISONE TAPER OR ONLY PREDNISONE TAPER

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Background: The arterial uptake of ¹⁸fluorine-2-deoxy-d-glucose (FDG) by positron emission tomography-computed tomography (PET/CT) has been used for the diagnosis of giant cell arteritis (GCA). The role for PET/CT in following disease activity and monitoring treatment effects, however, remains unclear

Objectives: To examine the degree of FDG uptake within the large arteries of GCA patients after 1 year of treatment

Methods: We studied a subgroup of patients enrolled in the GiACTA trial.¹ Patients received either tocilizumab (TCZ) given weekly or every other week plus a 26 week prednisone taper, or placebo (PBO) plus either a 26- or 52 week prednisone taper. PET/CTs were done according to site feasibility and not as part of the GiACTA protocol. For this analysis, the 2 TCZ and PBO groups, respectively, were combined. Patients had whole-body PET/CT imaging within 16 weeks of week 52 visit. The ascending aorta, carotid artery and subclavian artery territories were assessed by maximum standardised FDG uptake values (mSUV) measurement. For each territory, we calculated average, most diseased segment (MDS) and most diseased slide mSUVs and target background ratios (TBR). PET/CTs were read centrally by investigators blinded to the clinical and treatment data

Results: From 251 patients enrolled in GiACTA, 24 patients underwent PET/CT within 16 weeks of week 52 visit. Seventeen patients (71%) received TCZ plus a prednisone taper (TCZ group) and 7 patients received a prednisone taper alone (PBO group). There were no significant differences between groups in baseline characteristics (table 1). Mean (SD) cumulative prednisone dose at week 52 was 2.5 g (1.7 g) in the TCZ group and 3.2 g (1.2 g) in the PBO group (p=0.11). FDG

uptake was consistently numerically lower in all vascular territories in TCZ-treated patients compared to PBO-treated patients except in the ascending aorta. However, the between-group differences were statistically significant only in the left subclavian artery (table 2). Adjustment for selected confounders (new onset disease, baseline prednisone dose, prednisone dose at the time of PET/CT, cumulative prednisone dose, flare prior to PET/CT and clinical activity at the time of PET/CT) did not alter the conclusions derived from the univariate analyses

Table 1 Baseline characteristics: All results represent means (SD) except otherwise indicated. PBO=placebo, TCZ=tocilizumab

	PBO group (n=7)	TCZ group (n=17)	p-value
New onset disease, n (%)	6 (86)	9 (53)	0.19
Baseline prednisone dose (mg)	30 (30-50)	30 (20-40)	0.30
Cumulative prednisone dose (g) at week 52	3.2 (1.2)	2.5 (1.7)	0.11
Prednisone dose (mg) at PET time, median (IQR)	0 (0; 3)	0 (0; 7.5)	0.44
PET time point (weeks from baseline)	54.47 (5.75)	57.38 (8.33)	0.11
Primary outcome met, n (%)	4 (57)	11 (65)	1.00
Clinically active disease at the time of PET, n (%)	1 (14)	3 (18)	1.00
Disease relapse before PET, n (%)	3 (43)	8 (47)	0.61
TCZ treatment at the time of PET, n (%)	0 (100)	7 (41)	0.07

All results represent means (SD) except otherwise indicated. PBO = placebo, TCZ = tocilizumab

Table 2 Results: All results represent means (SD). mSUV=maximum standardised uptake value, MDS=most diseased segment, TBR=target to background ratio

	PBO group (n=7)	TCZ group (n=17)	p-value
Left subclavian artery			
Average mSUV	2.74 (0.77)	2.33 (0.42)	0.11
Average MDS mSUV	3.05 (0.90)	2.47 (0.46)	0.04
Hottest spot mSUV	3.23 (1.02)	2.56 (0.48)	0.04
TBR	2.94 (0.86)	2.47 (0.45)	0.09
Right subclavian artery			
Average mSUV	2.59 (0.86)	2.28 (0.43)	0.25
Average MDS mSUV	2.72 (0.88)	2.35 (0.42)	0.17
Hottest spot mSUV	2.82 (0.91)	2.49 (0.49)	0.26
TBR	2.76 (0.88)	2.41 (0.40)	0.19
Left carotid artery			
Average mSUV	2.51 (0.49)	2.36 (0.41)	0.50
Average MDS mSUV	2.64 (0.54)	2.52 (0.49)	0.66
Hottest spot mSUV	2.70 (0.54)	2.64 (0.54)	0.82
TBR	2.67 (0.52)	2.51 (0.43)	0.78
Right carotid artery			
Average mSUV	2.86 (0.77)	2.38 (0.44)	0.14
Average MDS mSUV	3.12 (0.95)	2.63 (0.65)	0.14
Hottest spot mSUV	3.23 (0.94)	2.76 (0.69)	0.16
TBR	2.98 (0.67)	2.54 (0.46)	0.31
Ascending aorta			
Average mSUV	2.85 (0.63)	2.86 (0.51)	0.93
Average MDS mSUV	2.99 (0.68)	2.98 (0.56)	0.97
Hottest spot mSUV	3.01 (0.71)	3.12 (0.61)	0.97
TBR	3.05 (0.65)	3.05 (0.61)	0.99
Hottest spot total score	13.40 (4.08)	12.62 (3.30)	0.62
Average MDS total score	12.84 (4.01)	12.04 (3.06)	0.60

All results represent means (SD). mSUV = maximum standardized uptake value, MDS = most diseased segment, TBR = target to background ratio

Conclusions: In this exploratory study, subclavian FDG-uptake was significantly reduced in GCA patients treated with TCZ plus prednisone versus prednisone monotherapy despite lower cumulative prednisone doses. A larger, carefully designed prospective study is required to fully understand the utility of PET/CT in the longitudinal evaluation of large-vessel vasculitis associated with GCA

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FRI0494

SPECTRUM OF VISUAL INVOLVEMENT IN GIANT CELL ARTERITIS

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Background: The dreaded complication of giant cell arteritis (GCA), irreversible sight loss (SL), is present in 15%–25% of patients at diagnosis. This is likely due to delayed presentation, recognition and treatment. Fast track pathways for urgent assessment of suspected GCA reduce SL with associated cost savings. Information regarding the burden of SL in GCA is required to guide health strategy and has been explored in this UK wide study.