Conclusions: Our observations support the notion that incident BS might be getting milder. There might be a list of explanations for this observation. 1. It might be a biological phenomenon due to changing environmental causes. In this line the significant decrease in papulopustular lesions could be due to a more sanitary environment while the rather unchanging frequency of neurologic involvement might be its possible independence from the environment. 2. It might be that the awareness of BS is increasing and we are recognising less severe cases. 3. Another explanation might be the more effective treatment these patients received before they were referred which was not specifically sought in this survey.

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THU0443 A PROBABILITY SCORE FROM A FAST TRACK CLINIC TO AID THE MANAGEMENT OF SUSPECTED GIANT CELL ARTERITIS

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Background: Diagnosis of Giant Cell Arteritis(GCA) is difficult since its manifestations are protean¹. Under-diagnosis is associated with ischaemic complications whereas over diagnosis is associated with inappropriate glucocorticoids (GC)². GCA is diagnosed by different specialties, including family physicians, who would benefit from a clinical prediction score. A fast track pathway also requires clinical triage in terms of probability of disease. We evaluated all referred patients (08/16–08/17) to develop a pre-test probability score(PTBS) to support a diagnostic pathway and decision-making.

Methods: The PTBS was generated from long standing clinical experience. Information collected at initial assessment was given varying positive weightage. This included baseline demographics (age-gender), symptomatology at presentation (onset, headache and scalp tenderness, ischaemic symptoms, constitutional symptoms, polymyalgia), C-Reactive protein(CRP) and examination findings (ischaemic ophthalmic complications, temporal artery abnormalities, extra-cranial abnormalities, cranial nerve palsies). Negative weightage was given for competing diagnoses (infection, cancer, head and neck pathology, systemic rheumatological diseases). The PTBS was compared with the final diagnosis as GCA or non-GCA 6 months after the initial assessment. Analysis was performed in Stata SE, version 13.1.

Results: 122 PTBS were collected of which CRP was missing in 1 case which was excluded from the analysis. 23 had a final diagnosis of GCA at 6 months follow up. The rest consist our control group(99 patients). The area under the ROC curve for the 121 cases was 0.953 (figure 1). Using the bootstrap method gave an estimated area under the ROC curve (95% confidence interval) of 0.953 (0.911, 0.994). At the point of inflection, corresponding to a cut point of 9.5, sensitivity was 95.7%, and specificity was 86.7%; the likelihood ratio for a positive test was 7.2 and the likelihood ratio for a negative test, 0.050. At this cut point, 88.4% cases were correctly classified.

Conclusions: This single centre retrospective study suggests that PTBS is a useful standardised assessment tool for rating pre-test probability for GCA with high levels of sensitivity and specificity. PTBS may reduce variation in clinical assessment and aid decision making. A patient with low probability score(<9.5) can be managed with colour doppler ultrasound examination(US) which if

negative will exclude the disease and the clinician can reassure patient. A patient with high PTBS and positive US can safely have the diagnosis confirmed and treated with GC. With intermediate scores, conflicting PTBS and US findings, equivocal US, additional investigations including TA biopsy and/or other imaging scans may be needed. Our results need validation in a prospective study and in internal and external validation cohorts. PTBS has the potential for forming the basis for education programme for the correct and early diagnosis of GCA and limit inappropriate GC in non GCA mimics.

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THU0444 AORTIC DILATATION IN PATIENTS WITH LARGE VESSEL VASCULITIS: A LONGITUDINAL CASE CONTROL STUDY USING POSITRON EMISSION TOMOGRAPHY/COMPUTED TOMOGRAPHY

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Objectives: To evaluate aortic diameter and predictors of aortic dilatation using FDG-PET/CT in a longitudinally followed cohort of patients with large vessel vasculitis (LVV) compared with controls.

Methods: All consecutive patients with LVV who underwent at least 2 PET/CT scans between January 2008 and May 2015 were included. The first and last PET/CT study of each patient was independently evaluated by a radiologist and a nuclear medicine physician. The diameter of the aorta was measured at 3 different levels: ascending, descending thoracic and infrarenal aorta. Aortic dilatation was defined as a diameter of >4 cm in the ascending, ≥4 cm in the descending thoracic and ≥3 cm in the infrarenal aorta. Aortic FDG uptake was graded at the same levels using a 0–3 semiquantitative scale and was reported as negative (score 0 or 1) or positive (score 2 and 3). Patients younger than 50 years at symptoms' onset were classified as Takayasu arteritis (TAK), while those older than 50 years as giant cell arteritis (GCA). 29 age- and sex-matched patients with lymphoma who underwent at least 2 PET/CT in the same time interval without evidence of aortic FDG uptake were selected as controls.

Results: 93 patients with LVV were included in the study. 53% of patients were newly-diagnosed; the remaining 47% had a median disease duration of 34 months. At first PET/CT, the mean (SD) diameter of descending thoracic aorta was significantly higher in LVV patients compared with controls [28.07 (4.40) vs 25.60 (3.59) mm, p=0.012]. At last PET/CT, after a median time of 31 months, patients with LVV compared with controls had higher diameter of ascending [35.41 (5.54) vs 32.97 (4.11) mm, p=0.029] and descending thoracic aorta [28.42 (4.82) vs 25.72 (3.55) mm, p=0.007] and more frequently had aortic dilatation [19% vs 3%, p=0.023]. Significant predictors of aortic dilatation were male sex [OR 7.27, p=0.001], and the diameter of ascending [OR 2.03, p<0.001], descending thoracic [OR 1.57, p<0.001] and infrarenal [OR 1.25, p=0.005] aorta at first PET/CT study. Positive aortic FDG uptake, disease activity and elevated inflammatory markers at first PET/CT were not associated with an increased risk of aortic dilatation. The results remained unchanged when the analysis were restricted to the 48 newly-diagnosed LVV patients.

According to age at symptoms onset, 56% of patients were classified as GCA and 44% as TAK. Compared with TAK, GCA patients had higher aortic diameter at all 3 levels evaluated in both first and last PET/CT study. However there were no differences in the proportion of patients with aortic dilatation (at last PET/CT 23% in GCA vs 15% in TAK, p=0.306). The results remained unchanged when the analysis were restricted to the newly-diagnosed patients.

Conclusions: Patients with large vessel vasculitis are at increased risk of aortic dilatation compared with age- and sex-matched controls. Significant predictors of aortic dilatation are male sex and aortic diameter at first imaging study. Positive aortic FDG uptake at first PET/CT is not associated with increased risk of aortic dilatation.

Disclosure of Interest: None declared

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THU0445

PRIMARY DIAGNOSIS OF LARGE VESSEL VASCULITIS BY TISSUE HISTOLOGY AFTER SURGERY OF AORTIC VALVE AND ASCENDING AORTA

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Background: Large vessel vasculitis showed different histological patterns, ranging from well-formed granulomas and lymphoplasmacytic pattern to giant cell pattern. Most of entities of large vessel vasculitis belong to rheumatic diseases such as the giant cell arteritis (GCA). The clinical feature is very variable depending on the GCA manifestations.

Objectives: Here we present an observation study of non-vasculitis patients, which had to undergo surgery of aortic valve and/or ascending aorta with a tissue histology of aortic inflammation.

Methods: In the department of thoracic surgery of the University Medical School of Saarland, Germany, 1474 patients (in 2014 n=806, in 2015 n=668) underwent thoracic surgery of aortic valve or ascending aorta due to different indications such as any entity of aortic aneurysm, dissection, aortic stenosis and/or insufficiency. Patients with bacterial endocarditis were excluded from analysis. All surgical specimens were pathologically analysed according standard procedure. All specimens (n=19 in 2014, n=17 in 2015) with histological inflammation signs of aortitis being negative for tbc, mycosis, or lues were underwent further investigation searching for IgG4 +plasmacells, giant cells, and granuloma; all patients (n=36) were re-evaluated by a rheumatologist (immediately during the hospitalisation or within 3 weeks with outpatient presentation) including laboratory tests for RF, ANA, ANCA, ACCP, IgG subclasses, complement, ESR, CRP. Furthermore, all aortitis patients were investigated with MRI of aorta (n=15) or PET scan (n=17) or both (n=4) between 4 to 12 weeks after surgery to exclude persistent aortitis in native vessels. All patients which were diagnosed for aortitis through MRI and/or PET received immunosuppressive treatment containing glucocorticosteroids with or without synthetical or biological DMARDs.

Results: Patients after thoracic surgery of aortic valve and/or ascending aorta were positive tested for aortitis in 2014 with the frequency of 2.36% (n=19/806) and in 2015 2.54% (n=17/668). The mean age of the 36 cases were 61 (range 39–80), of them were male 55.5% (n=20). The pathologic findings described 14 cases typical for GCA, 6 with granuloma, one with IgG4 +plasmacells, and one with predominant lymphocytic infiltration, 14 with unspecific inflammation. Rheumatologic consultation in all 36 cases could evaluated in 6 patients a preexisting rheumatologic disorder (RA n=2, polymyalgia rheumatica (PMR) n=4) without treatment. One patient were positive for significant elevated serum levels of IgG4. MRI and/or PET scan documented aortitis spots in the native aorta with or without concerning iliac arteries and/or supra-aortic vessels. All imaging-positive aortitis patients (n=12) were treated with glucocorticosteroids according to the protocol for giant cell arteritis (prednisolone 1 mg/Kg/body weight), six patients additionally with methotrexate, one with tocilizumab and one with rituximab.

Conclusions: Only a small fraction of thoracic surgery patients with aortic aneurysm, dissection, aortic stenosis and/or insufficiency show histologic signs of aortitis. However, a third of them could be diagnosed via histological findings for active large vessel vasculitis after surgery.

Disclosure of Interest: None declared

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THU0446

USEFULNESS OF COLOUR DOPPLER ULTRASONOGRAPHY IN FOLLOW UP OF GIANT CELL ARTERITIS

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Background: Colour doppler ultrasonography (CDU) in temporal arteries (TA) is useful for diagnosis and follow-up of giant cell arteritis (GCA).¹ However, the usefulness of CDU in carotid arteries (CA) for follow-up of GCA is not fully understood.²

Objectives: We investigated retrospectively relationship between clinical features and vessel wall thickness of TA and CA on CDU at baseline and during follow-up.

Methods: We recruited patients with newly diagnosed GCA in our hospital from January in 2004 to July in 2017. Among 35 patients, both of TA and CA were evaluated by CDU before and after treatment in 14 patients (four male and 10 female). Trained ultrasonographers and rheumatologists evaluated the CDU findings. Vessel wall thickness was evaluated at thickest portion of parietal or frontal ramus of TA, where biopsy was often performed. Intima-media thickness (IMT) of CA was also evaluated at thickest portion in each carotid artery.

Results: Average age was 73.2±11.3 years old. Follow-up periods after starting treatment were 244±149 weeks. All patients were diagnosed as GCA according to ACR criteria (1990) or temporal artery biopsy. Twelve patients were complicated with polymyalgia rheumatica (PMR) meeting EULAR/ACR classification criteria

(2012). All patients were treated with oral glucocorticoids (0.2 to 1.0 mg/kg prednisolone, 0.886 mg/kg on average). Immunosuppressants were added in four patients (methotrexate; n=3, tacrolimus; n=1). Aspirin was prescribed in nine patients.

Eleven patients (78.6%) had circumferential hypoechoic vessel wall thickness (halo sign) of TA at baseline, and halo signs disappeared in eight patients during follow-up. Average of vessel wall thickness significantly decreased from 0.665 mm to 0.311 mm (p=0.0016). The vessel wall thickness apparently increased in two patients out of three on clinical relapse, but it didn't increase in those who kept remission.

Graphical changes consistent with vasculitis in CA were observed in six patients, who showed hypoechoic thick intima and media on ultrasound or integration of FDG on PET/CT. Average of IMT in CA decreased from 1.167 mm to 0.883 mm (p=0.090) during follow-up in patients with vasculitis on CA. IMT changed little in patients without vasculitis on CA. Improvement rate was significantly higher in CA-involved patients than in CA-non-involved patients (p=0.043). IMT increased during follow-up in two CA-non-involved patients.

Abstract THU0446 – Table 1. Time-dependent change in vessel wall thickness of TA (mm)

	Baseline	Follow-up	Relapse
Patient 1	0.30	0.30	0.30
Patient 2	0.63	0.30	0.60
Patient 3	0.63	0.10	0.60

Abstract THU0446 – Table 2. Improvement rate of IMT in CA involved and non-involved patients

	IMT (mm)		Rate(B/A)	Median follow-up period (months)
	Baseline [A]	Follow-up [B]		
All (n=14)	0.964	0.843	0.874	30.0
CA involved (n=6)	1.167	0.883	0.757	34.0
CA non-involved (n=8)	0.813	0.813	1.000	27.6

Difference in B/A between CA involved and non-involved: p=0.043 (Mann-Whitney U test)

Conclusions: CDU of temporal arteries is useful for follow-up of GCA. CDU of carotid arteries has limited usefulness only in CA-involved patients.

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THU0447

NO ADVANTAGE OF METHOTREXATE IN THE TREATMENT OF GIANT CELL ARTERITIS

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Background: The high-dose glucocorticoids (GCs) are the mainstay of treatment in Giant Cell Arteritis (GCA). Patients treated with greater GCs dosages are at the greatest risk of morbidity. Immunosuppressive agents have been trialled in an effort to reduce toxicity from GCs and to improve efficacy of treatment. The results of one meta-analysis with the three trials that included methotrexate (MTX) showed a weak benefit in those patients receiving MTX, but the results were heterogeneous, with one trial showing significant benefit, while the other two did not.¹

Objectives: To study the efficacy and safety of MTX adjunct to GCs in the treatment of GCA.

Methods: New-onset giant-cell arteritis initiating treatment of the disease was included in a retrospective observational study to compare treatment efficacy and safety. According to the treatment received the patients were divided two groups: GCs alone (group 1) and MTX and GCs (group 2). To avoid bias, we defined a subgroup of patients in which only patients who started MTX in the first trimester of treatment were included (group 3). As efficacy outcome the number of relapses and the cumulative dose of GCs at 6, 12 and 24 months were collected. For safety,