(26.7%) patients were treated with biological therapy and 22 (21.0%) of them were taking tocilizumab. Patients were assessed using a combination of clinical, laboratory and radiological evaluation before and after Tocilizumab therapy. The demographic and clinical characteristics of the patients, the pre-tocilizumab and end of the follow-up acute phase values (Erythrocyte sedimentation rate (ESR), C-reactive protein (CRP)), visual analogue scales (VAS) (Pain, Fatigue, Patient Global), and concomitant therapies were recorded. Other clinical, imaging and laboratory results of the TA patients were obtained from hospital files. The comparative imaging (Computed Tomography and Magnetic Resonance Imaging) results of the patients just before the Tocilizumab therapy and during follow-up were recorded from the hospital data system.

Results: Twenty-two patients (86.4% female) were included in to the analysis. The median (minimum-maximum) age of the patients was 40²⁴⁻⁶³ years and the median disease duration (from diagnosis) was 48¹²⁻¹⁶⁸ months. Before tocilizumab therapy; cyclophosphamide (8 patients (36.4%), conventional immunosuppressives (21 patients, 95.4%) and TNFi (7 patients, 31.8%) were used in addition to corticosteroid therapy. Main indications for tocilizumab therapy was as follows; radiological progression in 9 patients (acute phase was normal in 2 of them), acute phase elevation in 8 patients (4 of them radiologically stable, 4 of them had no radiologic evaluation), physician's decision and clinical symptoms in 3 patients (acute phase normal; 2 of them radiologically stable, one had no radiologic evaluation), in two patients tocilizumab therapy was started out of our centre and data before tocilizumab was not available. Fifteen patients (median follow-up time 15³⁻⁴² months) were evaluated for response to tocilizumab treatment. There was a significant decrease in ESR, CRP, and VAS-patient-global of patients after tocilizumab therapy; median (min-max) ESR (26⁵⁻¹¹⁹ vs. 3 (2-49) mm/s, p=0.02), CRP (39.8 (2.4-149.0) vs. 7.9 (0-92.9) mg/L, p=0.017), VAS-patient-global (50 (0-90) vs. 30 (0-60), p=0.027), respectively. Total of 9 patients had follow-up imaging; 8 of them was radiologically stable and regression was seen in one patient (figure 1).

Table 1:

Patient No	Age/Sex	Age at diagnosis	Disease Duration (months)	Previous treatments	Before Tocilizumab Therapy	ESR mm/h	CRP g/L	VAS (Pain/Fatigue/Patient Global)	Imaging
1	57F	53	48	MTX	Pred. 15 mg/day	34	42.8	0/20/20	Stable
2	48M	31	72	CYC, MTX, SBZ, IFX, ADA	Pred. 10 mg/day	75	81.7	-	Stable
3	47F	37	96	CYC, SBZ, MTX, PB, ETN	MPred. 32 mg/day	24	19.6	50/70/30	Progression
4	25F	20	36	CYC, MTX, LEF, IFX, ADA	Pred. 30 mg/day	11	42.7	80/70/90	Stable
5	55F	53	12	MMF	MPred. 16 mg/day	68	78.1	-	Stable
6	40F	36	12	MTX, PB, IFX	Pred. 40 mg/day	26	28.0	-	-
7	30F	27	12	MTX, PB, IFX	Pred. 40 mg/day	119	198.0	70/90/70	Progression
8	63F	61	12	MTX	-	-	-	Tocilizumab was started out of our center	-
9	28F	23	48	MTX, PB	PB 500 mg/month	103	85.1	0/0/0	-
10	43F	35	168	CYC, MTX	Pred. 40 mg/day	35	62.7	10/20/40	-
11	43F	40	24	CYC, MTX	-	12	16.7	90/90/90	Progression
12	34F	26	72	MTX, IFX	Pred. 50 mg/day	30	3.2	0/0/20	Progression
13	35F	32	36	AZT, MTX	Pred. 10 mg/day	3	1.8	60/60/70	Stable
14	24M	13	72	MTX, IFX	Pred. 5 mg/day	-	-	Tocilizumab was started out of our center	-
15	31F	23	84	CYC, MTX	Pred. 20 mg/day	6	2.7	40/60/30	Progression
16	31F	28	34	CYC	Pred. 30 mg/day	7	2.4	40/70/60	Stable
17	50F	58	12	-	Pred. 5 mg/day	42	39.8	70/60/70	Stable
18	48F	46	12	MMF	MPred. 6 mg/day	5	8.8	50/80/50	Progression
19	24M	20	24	CYC, MTX	Pred. 40 mg/day	18	31.7	0/0/10	Progression
20	23F	25	12	-	MPred. 4 mg/day	14	3.9	80/60/50	Progression
21	66F	58	132	AZT	-	2	2.7	80/90/90	-
22	43F	34	60	MTX	Pred. 15 mg/day	30	-	0/70/40	Progression

CYC: Cyclophosphamide; MTX: Methotrexate; SBZ: Sulfasalazine; IFX: Infliximab; ADA: Adalimumab; PB: Prednisolone; ETN: Etanercept; AZT: Azathioprine; MPred: Methylprednisolone; IFX: Infliximab; ADA: Adalimumab; PB: Prednisolone; ETN: Etanercept; AZT: Azathioprine; MPred: Methylprednisolone.

Conclusions: The use of biological therapies in more than a quarter of TA patients suggests that the role of conventional therapies in TA is limited. Although imaging modalities and acute phase elevations are the main factors in the decision of change in treatment, presence of symptoms and physician opinion are also important. Significant response was obtained with the treatment of tocilizumab.

Disclosure of Interest: None declared

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THU0453 EFFICACY OF AB INITIO OR VERY EARLY INTRODUCTION OF IMMUNOSUPPRESSIVE THERAPY IN GIANT CELL ARTERITIS: A MULTICENTER RETROSPECTIVE OBSERVATIONAL STUDY

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Background: Glucocorticoids (GC) remain the mainstay of treatment of giant cell arteritis (GCA). However, relapses occur in up to 50% of patients when GC are tapered and prolonged courses of GC are associated with serious side effects. In this setting, the outcome is frequently determined by GC-related adverse events

(AEs). Thus, several studies have been conducted on the effectiveness of a GC-sparing immunosuppressive therapy (IT), with conflicting results.

Objectives: To evaluate the effectiveness of IT in a series of GCA patients, in: 1) reducing the risk of GCA relapse; 2) lowering the exposure to GC therapy; 3) minimising the occurrence of steroid-induced AEs.

Methods: We performed a multicenter retrospective observational study including 69 patients (75.4% females; mean age $\pm$ SD 68.7 $\pm$ 7.8 y; median follow-up time 40 months [range 26-65]) diagnosed with GCA, all receiving an adjunctive IT given ab initio (71%) or within 3 months from the start of GC. All but 17 patients (with extracranial involvement) fulfilled the GCA ACR classification criteria. Risk of first relapse of GCA, GC exposure and main AEs were retrospectively analysed. Results were compared with those reported in other studies, all characterised by a lower use of IT.

Results: all patients received GC plus IT: methotrexate up to 20 mg/week in 63 patients, cyclophosphamide in 22, tocilizumab in 12. In the follow-up, a first relapse of GCA occurred in 14 (20.3%) of patients. The rates of first relapse at 12, 24, 36 and 48 weeks were 4.3%, 11.6%, 15.9% and 15.9%, respectively, in comparison with rates of 24.3%, 41.6%, 61%, 64.9%, respectively, in the GC monotherapy arm in the meta-analysis by Mahr,¹ where similar data were available. The median daily prednisone dose at beginning was 50 mg, and decreased to 10 mg at 3 months and to 5 mg at 6 months. The median time required to reduce prednisone to 7.5 mg/day and 5 mg/ was 3 and 5 months respectively (vs. 6.5 and 7.5 months in series by Proven,² where similar data were available). In our cohort, lower cumulative GC use was accompanied by a reduction of AEs, without further toxicity (tab.1).

	Present work	Proven 20032	Mahr 20071	Souza 20143	Alba 20144	Labarca 20165
Number of patients	69	120	77	45	106	286
% use of IT	100%	2%	0%	55.6%	14.2%	0%
Follow up, months	40	120	13,7	54,9	93,6	61,2
Fractility fractures	11,6%	38%	8%	NA	NA	27%
Diabetes	4,3%	9%	12%	33,4%	8,5%	NA
Hypertension	8,7%	22%	NA	66,7%	51%	1,7%
Infections	10,1% (2,9% needing hospitalisation)	31%	NA	23%	NA	17% (all needing hospitalisation)

Conclusions: The use of IT ab initio or very early in the treatment of GCA appears to be effective and safe, lowering the risk of relapses, reducing GC dose and the rate of GC-related AEs. Therefore, the present data support the early introduction of IT in the treatment of GCA.

REFERENCES:

- [1] Mahr AD, et al. Arthritis Rheum 2007;56(8):2789-97.
- [2] Proven A, et al. Arthritis Rheum 2003 49(5):703-8.
- [3] Souza AW, Okamoto KY, Abrantes F, et al. Clinics (Sao Paulo) 2013;68:317-322.
- [4] Alba MA, et al. Medicine (Baltimore) 2014;93(5):194-201.
- [5] Labarca C, et al. Rheumatology (Oxford) 2016;55(2):347-56.

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THU0454 INCREASED FDG UPTAKE OF THE MUSCLES IN POLYMYALGIA RHEUMATICA (PMR)

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Background: PMR is an inflammatory disease affecting the shoulder and pelvic girdles of elderly patients. Its causes, development mechanisms and anatomical targets of inflammatory damage are still elusive. Synovitis, vasculitis, and bursitis have all been demonstrated in PMR but data on muscles are scanty.

Objectives: Our study evaluated muscular uptake at FDG-PET/CT in patients with PMR.

Methods: Fifty patients with PMR diagnosed according to Bird et al criteria and 50 age- and sex-matched control patients without inflammatory disorders, who underwent FDG-PET/CT to rule out malignancy, were studied. Standard FDG-

PET/CT examination was performed and its results were evaluated by both qualitative scoring, on a 5-grade scale from 0 (no uptake) to 4 (clearly higher than liver uptake), and analysis of the standardised uptake value (SUV max and mean) in a ROI placed on the deltoid, biceps, gluteus and quadriceps muscles. A ROI of the joints and bursae was also designed and the SUV calculated. The muscle ROIs were positioned distant from the corresponding joints to avoid interference from possible articular or periarticular uptake. Demographic, clinical and laboratory data were collected.

Results: PMR patients showed an uptake higher than that of controls in the deltoid ($p=0.0004$), gluteus ($p=0.015$), and quadriceps ($p=0.009$), but not in the biceps ($p=0.06$) muscles. The semiquantitative SUV evaluation was consistent for the deltoid (SUV mean, $p=0.047$) and gluteus (SUV mean, $p=0.01$; SUV max, $p=0.006$) muscles. There was no correlation between muscle uptake and that of the adjoining joint. Similarly, no correlation was found between muscle uptake and demographic, clinical and laboratory (CRP, ESR) findings.

Conclusions: PMR show muscular inflammation at FDG-PET/CT, which does not derive from the nearby joints or periarticular tissues. A clearly defined myositis is not probable, because creatine kinase concentrations are normal in PMR. However, muscle inflammation may contribute to the global inflammatory burden and symptoms of patients with PMR.

Disclosure of Interest: None declared

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THU0455 AGE IS MORE CLOSELY ASSOCIATED WITH POSITIVE TEMPORAL ARTERY BIOPSY OVER BIOPSY LENGTH IN LARGE VETERANS ADMINISTRATION DATABASE STUDY

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Background: Giant cell arteritis (GCA) is a granulomatous vasculitis with a predilection for older women. While American College of Rheumatology (ACR) diagnostic guidelines exist, temporal artery biopsy (TAB) remains an essential tool often used independently to substantiate long-term steroid use and/or immunosuppression. No consensus exists regarding the ideal length of biopsy to optimise pathological yield. The influence of demographic factors such as age, race, and gender on the yield of biopsies is not defined.

Objectives: To determine if length of TAB and patient's race, gender, or age at biopsy influenced TAB results using the Veteran's Administration (VA) national database.

Methods: Patients with a procedure code for TAB between 1999–2017 were queried through the VA national database. The biopsy length and result (positive, negative, or indeterminate) were recorded. Demographic information including subject age, gender, and race was also extracted. Logistic regression models were run using Stata to identify independent determinants of a positive TAB.

Results: 2136 biopsies have been randomly reviewed to date. The average length of TAB was 12.15 mm. TAB results were 9% positive, 89% negative, and 2% indeterminate. There was no statistically significant association between biopsy length and a positive result; however, when compared to the reference group (>10 mm– <15 mm), the odds ratio for positive results increased with specimen length >20 mm to 30 mm in length. Conversely, there was a trend towards negative biopsy results for samples <10 mm in length when compared to the reference length group. There was no correlation between TAB result and race or gender; however, age correlated with a positive biopsy which was statistically significant. None of the subjects <50 years of age had a positive TAB. Younger age groups (age categories 50–59 and 60–69) were less likely to have a positive TAB (OR of 0.32 CI 0.17–0.61 and OR 0.53 CI 0.38–0.74, respectively) when compared to the reference age group (age 70–79). Conversely, older populations aged 90 and above demonstrated a statistically significant increased likelihood of a positive biopsy result with an OR of 2.25, CI 1.05–4.85.

Conclusions: The incidence of positive TAB among patients with suspected temporal arteritis in the VA national database was surprisingly low. The effect of other factors, such as the referring specialty or pre-biopsy steroid use, on TAB result may be insightful in understanding the low yield. Age remains a helpful tool given its association with increased likelihood of a positive biopsy, and the decision to pursue TAB in patients <50 years old should be approached judiciously. Length of biopsy was not associated with a positive result; however, the trends we note suggest a biopsy between 10 mm and 25 mm could optimise the yield. Gender and race were not helpful predictors for biopsy yield in this population.

Disclosure of Interest: None declared

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THU0456 THE CLINICO-HISTOPATHOLOGICAL ALGORITHM FOR DIFFERENTIAL DIAGNOSIS OF BUEGER'S DISEASE, TAKAYASU ARTERITIS AND ATHEROSCLEROTIC OCCLUSIVE DISEASE

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Background: Arterial occlusive disease is a significant cause of the disability due to lower limbs amputations. In addition to atherosclerosis, systemic vasculitides can present with progressive critical limb ischemia and could be misdiagnosed as atherosclerotic occlusive disease.

Objectives: To investigate the pathological findings in vessels of the lower limbs amputated due to Takayasu arteritis (TAK), Buerger's disease (BD) in comparison to atherosclerotic occlusive disease (AOD) and diabetic angiopathy (DA). Additionally, to develop an algorithm for clinico-histopathological differential diagnosis.

Methods: The specimens of vessels segments were obtained from the nine anatomical levels of amputated lower extremities in 132 patients, of which 30 were with TAK, 42 with BD, 30 with AOD and 30 with DA.

Results: In cases of BD, the exudative-productive endo-mesoarteritis with intimal hyperplasia from stenosis to complete obliteration have been found in the lower leg and foot arteries. No morphological abnormalities were observed in proximal arteries above knee. The pathologic hallmark of BD was panphlebitis with intimal hyperplasia, most often in anterior and posterior tibial veins, vena dorsalis pedis and superficial vein. The most remarkable finding in cases of TAK was mesoarteritis and luminal narrowing due to the reactive intimal hyperplasia in proximal arterial segments. In approximately half of the cases, TAK was not diagnosed clinically and identified only based on the pathological examination. The most common incorrect clinical diagnosis was atherosclerotic occlusive disease. In seven cases of TAK, concomitant premature atherosclerosis of varying severity was observed. Interestingly, in our series of cases of TAK, males were most frequently affected. The correct clinical diagnosis of TAK was made in all females' cases. It seems to be a trend to miss the clinical diagnosis of TAK in men. In cases of AOD, pathological examination revealed stenotic atherosclerotic plaques occurred most prominently in the tunica intima of femoral and popliteal arteries. The most common morphologic features in cases of DA were media calcinosis and fibrous lipid plaques both distal and proximal arterial segments. The algorithm for clinico-histopathological differential diagnosis of TAK, BD, AOD and DA consists of the following: a) the best diagnostic performance can be obtained with four-five specimens of the magistral vessels from the proximal and distal parts of the amputated limb and the superficial vein at the level of the upper third of the shin; b) using routine and special staining techniques (H and E, Masson's trichrome stain for collagen fibres, Hart's elastin stain); c) analysis of the demographic and clinical data; d) interpretation of pathologic changes in vessels of the lower limbs; e) making a pathologic diagnosis.

Conclusions: The current findings could contribute to the improving the differential diagnosis of Takayasu arteritis, Buerger's disease, atherosclerotic occlusive disease and diabetic angiopathy.

Disclosure of Interest: None declared

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THU0457 INTERLEUKIN-6 EXPRESSION IN INFLAMED AND NON-INFLAMED TEMPORAL ARTERIES FROM PATIENTS WITH GIANT CELL ARTERITIS

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Objectives: To evaluate if interleukin-6 (IL-6) expression in the temporal artery biopsy (TAB) specimens may differentiate patients with giant cell arteritis (GCA) from those without.

Methods: 63 consecutive formalin-fixed, paraffin-embedded (FFPE) TABs performed between 2009 and 2012 from 32 patients with transmural biopsy-proven GCA, 8 patients with biopsy-negative GCA and 23 controls were retrieved. Demographic, clinical, and laboratory data at presentation and at each follow-up visit were collected. A pathologist reviewed all TABs. Immunohistochemistry was performed on 4 μ m FFPE tissue sections with a 1:400 dilution of rabbit polyclonal anti-human IL-6 antibody (NOVUS Biologicals Littleton, Co.) for 60' at 37°. Slides of TAB specimens were independently assessed by five readers. IL-6 expression was graded as 0 (absent), 1 (mild), 2 (moderate) and 3 (marked). Inter-reader differences were resolved by consensus. Anti-IL6 staining was considered positive if staining was grade 2 or 3, since grade 1 was faint, sometimes difficult to differentiate from background, and showed the least degree of agreement between readers.