Results: We were able to examine 91 AAV patients (52 MPA patients and 39 GPA patients) with 82.4% for MPO-ANCA positive and 20.9% for PR3-ANCA positive. Almost half of the patients was female (56.0%). The median age was 70 years [interquartile range (IQR): 64-77]. The median BVAS was 17 (IQR: 12-23). We identified autoantigen of EGF-containing fibulin-like extracellular matrix protein 1 (EFEMP1) in 43 of MPA (82.6%) and 16 of GPA (41.0%) at baseline. After 6 months of treatment, no cases of EFEMP1 were identified in MPA and GPA. The clinical features of EFEMP1 positive in AAV patients were higher age at onset ($p < 0.01$), less ear, nose and throat symptoms at initiation of treatment ($p < 0.05$), higher serum Cr at initiation of treatment ($p < 0.01$), higher vasculitis damage index (VDI) renal component at 12 months and 24 months after initiation of treatment (both $p < 0.05$).

Conclusion: Our findings indicate that an autoantigen as immune complexes of EFEMP1 were involved in the pathogenesis of AAV patients and may predict renal prognosis.

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Table. Comparison with and without EFEMP1 (all cases)

group	EFEMP1 positive (n=59)	EFEMP1 negative (n=32)	**p-value
Sex(%male)	27/59 (45.8%)	13/32 (40.6%)	0.665
Age, years	74 (66-78)	68 (60-71)	0.003
WBC(/ml)	8270 (7325-12725)	9150 (7325-11700)	0.280
Cr(mg/dl)	1.4 (0.9-3.8)	0.8 (0.6-1.5)	0.005
CRP(mg/dl)	7.0 (2.3-12.5)	7.6 (4.0-11.0)	0.566
MPA(%)	43/59 (72.9%)	9/32 (28.1%)	<0.001
GPA(%)	16/59 (27.1%)	23/32 (71.9%)	<0.001
MPO-ANCA positive	54/59 (91.5%)	24/32 (65.6%)	0.003
PR3-ANCA positive*	7/56 (12.5%)	12/32 (37.5%)	0.012
BVAS total	15 (12-20)	20 (12-25)	0.087
BVAS renal positive	53/59 (89.8%)	26/32 (81.3%)	0.332
BVAS chest positive	16/59 (27.1%)	14/32 (43.4%)	0.161
BVAS ENT positive	17/59 (28.8%)	18/32 (56.3%)	0.014
BVAS systemic positive	40/59 (67.8%)	24/32 (75.0%)	0.631
VDI renal 6 months	1 (0-2)	0 (0-1)	0.053
VDI renal 12 months	1 (0-2)	0 (0-1)	0.007
VDI renal 24 months	1 (0-2)	0 (0-1)	0.012

IQR interquartile range. Values are median(IQR) or n(%), *missing data, **Wilcoxon signed-rank test/Fisher's exact test

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THU0316

VALIDATION OF ACR/EULAR PROVISIONAL CLASSIFICATION CRITERIA FOR ANCA-ASSOCIATED VASCULITIS IN A LATIN-AMERICAN TERTIARY CENTER

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Background: There is lack studies about performance of new criteria set for ANCA-Associated Vasculitis (AAV) in Latin-America.

Objectives: To validate the new classification criteria for AAV in a real-life cohort of patients with these conditions.

Methods: We performed a review of medical records from January 1990 to December 2019 at Hospital Nacional Guillermo Almenara Irigoyen from Peru. AAV was diagnosed by experienced rheumatologists based on the ACR 1990 criteria, Chapel Hill 2012 consensus, EMEA criteria and their experience and clinical acumen. Granulomatosis with polyangiitis (GPA), microscopic polyangiitis (MPA) and eosinophilic granulomatosis with polyangiitis (EGPA) were diagnosed. Renal limited vasculitis was considered as MPA. To evaluate the performance of the new criteria, we classified all patients using "former criteria set" (including the 1990 ACR criteria for GPA and EGPA and the 1994 Chapel Hill Consensus Conference for MPA) and the EMEA (European Medicines Agency) criteria set. At the same time, we classified all patients using the ACR/EULAR Provisional criteria (new criteria set). The values for sensitivity, specificity and level of agreement (using Cohen's kappa) of all sets of criteria were calculated using the clinical diagnosis as gold standard.

Results: Two hundred twelve patients were identified; 12 of them were excluded (eight did not have ANCA and four had incomplete data). Female/male ratio was 1.9:1 [130 (65%)/70 (35%)] and their mean (SD) age at diagnosis was 59.3 (12.6) years. One hundred fifty-four (77%) had MPA, 41 (20.5%) GPA and 5 (2.5%) EGPA. One hundred ninety-six patients had ANCA-IIF results [p-ANCA: 131 (66.8%), c-ANCA: 43 (21.9%), negative-ANCA: 22 (11.3%)] and 190 patients had ANCA-ELISA results [MPO: 129 (67.9%), PR3: 37 (19.5%), negative-ANCA: 24 (12.6%)]. Type of diagnosis according to criteria set used is depicted in Table 1. The new criteria set had better agreement (kappa: 0.653) than the EMEA criteria (kappa: 0.506) and the former criteria set (kappa: 0.305). Performance of the criteria sets is depicted in Table 2.

Table 1. Type of AAV according to criteria set used.

TYPE OF AAV	Clinical diagnosis	Former criteria	New criteria	EMEA criteria
MPA, n (%)	154 (77)	76 (38)	137 (68.5)	110 (56.0)
GPA, n (%)	41 (20.5)	30 (15)	39 (19.5)	39 (19.5)
EGPA, n (%)	5 (2.5)	2 (1)	4 (2)	2 (1.0)
Not classifiable, n (%)	NA	92 (46)	20 (10)	44 (22.0)
PAN				5 (2.5)

PAN: Polyarteritis nodosa. NA: Not applicable.

Table 2. Performance of the different criteria sets in AAV patients.

DIAGNOSIS	CRITERIA SET	SE	SP	Kappa
MPA	Former	49.4	100.0	0.309
	EMEA	69.9	93.9	0.471
	New	87.0	93.5	0.713
GPA	Former	68.3	98.7	0.744
	EMEA	92.7	99.4	0.938
	New	80.5	96.2	0.781
EGPA	Former	40.0	100.0	0.565
	EMEA	40.0	100.0	0.565
	New	60.0	99.5	0.659

SE: Sensitivity. SP: Specificity.

Conclusion: The ACR/EULAR Provisional Criteria for AAV have better agreement with the clinical diagnosis of AAV in Latin-American patients from a real-life cohort.

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THU0317

EXPANDED DOUBLE NEGATIVE T CELLS IN PATIENTS WITH ANTINEUTROPHIL CYTOPLASMIC AUTOANTIBODY ASSOCIATED VASCULITIS PRODUCE CYTOKINES AND INDUCE RENAL DAMAGE

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Background: Antineutrophil cytoplasmic autoantibody (ANCA)-associated vasculitis (AAV) are recognized as a small-vessel vasculitis of autoimmune origin characterized by inflammation and the presence of circulating ANCA with the major target antigens identified as proteinase 3 (PR3) and myeloperoxidase (MPO). A very minor T cell subpopulation which lacks both CD4 and CD8 markers, known as CD4-CD8- double negative (DN) represents less than 5% of the total peripheral blood (PB) T cells in healthy individuals and plays a vital role in the pathogenesis of autoimmune disorders.

Objectives: To investigate whether DN T cells and cytokine (IFN- γ , IL-4 and IL-17) are involved in the pathogenesis of AAV and to verify whether DN T cells are associated with kidney damage.

Methods: Nineteen healthy controls (HCs) and 40 active patients with AAV were enrolled in this study. Peripheral blood mononuclear cells from AAV patients and controls were isolated by magnetic bead separation, and phenotypic characterization of mononuclear cells were determined via flow cytometry. The diagnostic value for DN T subsets was evaluated by the areas under the receiver operating characteristic curves (AUC).

Results: The percentage ($p<0.001$) and absolute numbers ($p=0.028$) of DN T cells were found to be significantly higher in patients with AAV as compared with controls. Less the percentage of DN T cells from patients with AAV were of CD62L+CD45RO+ ($p=0.024$) phenotype than was found in HCs, and the percentage of CD62L-CD45RO- ($p=0.043$) was higher. The percentage of DN T cells expressing IFN- γ ($p=0.032$), IL-4 ($p=0.039$) and IL-17 ($p=0.042$) increased in AAV patients. In AAV with renal damage, the percentage of DN T cells was expanded ($p=0.016$) than those patients without renal damage. After conventional methylprednisolone treatment, the percentage of DN T cells in patients with remission was significantly lower than those active patients ($p=0.028$). The ROC curve analysis showed that the ratios of CD4+ T cells to DN T cells and CD8+ T cells to DN T cells were useful in diagnosing AAV patients. The AUCs were 0.967 (95% confidence interval [CI] 0.922-1.000; $p<0.001$) and 0.879 (95%CI 0.789-0.969; $p<0.001$), respectively.

Conclusion: DN T cells represent an inflammatory T cell subset that produces inflammatory cytokines (IFN- γ , IL-4 and IL-17) in AAV patients. Suppression of DN T cells may be new specific treatment in autoimmune disorder such as AAV.

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THU0318

PATTERNS OF CLINICAL PRESENTATION IN TAKAYASU'S ARTERITIS

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Background: Takayasu's arteritis (TAK) is a clinically heterogeneous disease. Patterns of clinical presentation in TAK at diagnosis have not been well described, and a "triphasic pattern" of constitutional symptoms evolving into vascular inflammation and fibrosis has been reported but never systematically evaluated.

Objectives: To describe patterns of clinical presentation in TAK at diagnosis and evaluate the presence of an antecedent triphasic disease pattern in patients with TAK who presented with a major ischemic event at diagnosis.

Methods: Patients with TAK were prospectively recruited from the National Institutes of Health (NIH) and the Vasculitis Clinical Research Consortium (VCRC). All patients fulfilled the 1990 American College of Rheumatology (ACR) Classification Criteria for TAK. Based on clinical presentation at diagnosis, patients were divided into five groups from the different stages of the triphasic pattern of disease as follows: 1) constitutional symptoms (phase I), 2) carotidynia (phase II), 3) other vascular-associated symptoms (phase II), 4) major ischemic event (phase III) defined as CVA or TIA, retinal ischemia, MI, renovascular hypertension, or mesenteric ischemia, or 5) asymptomatic. Phase II was divided into two separate groups because patients with carotidynia reportedly have a higher rate of relapsing disease.

Associated clinical characteristics were evaluated in each group and differences among groups were assessed by chi square test and Kruskal-Wallis test, as appropriate. Preceding symptoms were also assessed to determine the presence of a triphasic disease pattern.

Results: A total of 275 patients with TAK were included (VCRC=208; NIH=67). Similar heterogeneity of clinical presentation was identified in each cohort: constitutional symptoms (8%), carotidynia (13-15%), other vascular symptoms (43-47%), major ischemic event (28-30%), and asymptomatic (2-6%). Frequency of male gender was more common in patients who presented with constitutional symptoms or were asymptomatic at diagnosis ($p<0.01$). Patients who presented with constitutional symptoms and major ischemic events were youngest at diagnosis. Patients in the asymptomatic group were oldest at diagnosis and often were not treated ($p<0.01$). Involvement of the abdominal vasculature was associated with major ischemic events and asymptomatic presentations. Major ischemic events after diagnosis were infrequent in the groups who did not present with a major ischemic event, occurring in 10-20% cases. Relapse ($p<0.01$) and recurrent pharyngitis preceding diagnosis ($p<0.01$) was most frequent in patients who presented with carotidynia.

A total of 79 patients [VCRC=59 patients, NIH=20 patients] presented with a major ischemic event. The majority of these patients (53%) reported symptoms of active disease prior to the major ischemic event. Few patients (19%) who presented with a major ischemic event reported a triphasic pattern of disease.

Conclusion: There is heterogeneity in clinical presentation at the time of diagnosis in TAK and this heterogeneity can be used to group patients according to pattern of disease presentation. Patients do not necessarily progress sequentially through phases of disease, but the majority of patients presenting with a major ischemic event report some preceding symptoms. Data from this study demonstrate distinct subgroups within TAK and supports the concept that TAK is possibly a heterogeneous collection of multiple diseases.

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THU0319

DEVELOPMENT AND OUTCOME OF AORTIC COMPLICATIONS DURING TOCILIZUMAB TREATMENT OF GCA AND HISTOPATHOLOGIC EVIDENCE OF RESIDUAL INFLAMMATION-A CASE SERIES.

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Background: Giant cell arteritis (GCA) may affect the aorta and the large aortic branches and lead to dissections and aortic aneurysms. Tocilizumab (TCZ) treatment has the capacity to control aortic inflammation as has been demonstrated by CRP normalization and imaging data. However, limited data are available on the histopathological findings obtained from patients who underwent surgery because of aortic complications during TCZ treatment.

Objectives: We report on 5 patients with aortitis who were treated with TCZ and developed aortic complications.

Methods: We describe a retrospective case series of patients with GCA treated with TCZ, who presented in our clinic between 2011 and 2019. Three patients underwent surgery. Histopathologic examination was performed in specimen from all of them.