Table 2. US, AT & confirmed diagnosis

Category	Ultrasound			No of AT	Type of AT	Final Diagnosis
	+ve	Not done	-ve			
LC (78)	1	39	38	7	1x TAB (-), CTB (-)	Fibromyalgia
					1x TAB (-), MRA (-), MR neck (+)	Tongue cancer
					1x CTA (+)	Stroke
					1x CTCAP (-)	IA
					1x PET (-)	PMR
IC (65)	30	3	32	15	1x TAB (-)	NA AION
					1x PET (-)	CVA
					5x TAB (-), 2x PET (-)	Not GCA
					2x TAB (+), 6x PET (+)	GCA
					1x PET (-)	URTI
HC (31)	25	0	6	10	1x TAB (-)	NAAION
					2x PET (+)	
					1x TAB (+)	
					1x CTA (+)	
					1x MRA (+)	GCA
					1x PET (-)	
					2x CTA (-)	
					1x CTCAP (-)	

Abbreviations: AT, Additional test; CTA, Computed tomography angiogram; CTB, Computed tomography of brain; CTCAP, Computed tomography of chest, abdomen and pelvis; GCA, Giant cell arteritis; IA, Inflammatory arthritis; MRA, Magnetic resonant angiogram; NA AION, Non arteritic anterior ischemic optic neuritis; PET, Position emission tomography; TAB, Temporal artery biopsy; URTI, Upper respiratory tract infection

In IC, 30/65 (46%) were US +ve 8 had AT (all GCA confirmed) while on treatment. 32 (49%) US negative where 7 had AT (all GCA excluded). 3 did not have US. Sensitivity, specificity, accuracy of US was all 100%, GCA prevalence 46%, mean CRP 39.05 (SEM+/- 5.04)

US test performance overall sensitivity 95%, specificity 98%, accuracy 97%

Conclusion: PTPS successfully stratifies GCA, excludes mimics and enhances US performance. The algorithm interprets correctly US findings and choice of AT.

References:

- [1] Patil et al Clin Exp Rheumatol 2015;33(Suppl 89): S103–6.
- [2] Laskou et al. Clin Exp Rheumatol. 2019 Feb 15

Figure-1: Probability based diagnostic algorithm for suspected GCA

Disclosure of Interests: Alwin Sebastian: None declared, Abdul Kayani: None declared, Chavini Ranasinghe: None declared, Bhaskar Dasgupta Grant/research support from: Roche, Consultant of: Roche, Sanofi, GSK, BMS, AbbVie, Speakers bureau: Roche

DOI: 10.1136/annrheumdis-2020-eular.904

SAT0250

CLINICAL CHARACTERISTICS AND THE DISEASE ACTIVITY OF BEHCET'S DISEASE IN CHINA: A STUDY BASED ON SMART SYSTEM OF DISEASE MANAGEMENT (SSDM)

L. Dong¹, S. Li¹, Z. Wu², F. Wang³, S. Zhang¹, Q. Li⁴, Y. Yu¹, L. Shen⁵, L. Luo⁶, P. Ji⁶, W. Liu⁷, T. Wang⁸, H. Xiao⁹, S. Jia⁹, Y. Jia⁹, F. Xiao⁹, L. Wu¹⁰ on behalf of SSDM Collaboration Group, China. ¹Tongji Hospital Affiliated to Tongji Medical College of HUST, Wuhan, China; ²The First Affiliated Hospital of the Air Force Medical University, Xi'an, China; ³First Affiliated Hospital of Medical University of Anhui, Anhui, China; ⁴The First People's Hospital of Yunnan Province, Kunming, China; ⁵Union Hospital

Affiliated Tongji Medical College of HUST, Wuhan, China; ⁶The First Affiliated Hospital of Xinjiang Medical University, Urumqi, China; ⁷The First Teaching Hospital of Tianjin University of TCM, Tianjin, China; ⁸Beijing Anzhen Hospital, Capital Medical University, Beijing, China; ⁹Shanghai Gothic Internet Technology Co., Ltd., Shanghai, China; ¹⁰People's Hospital of Xinjiang Uygur Autonomous Region, Urumqi, China

Background: Behcet's disease (BD) is a systemic autoimmune disease that affects multiple organ systems with recurrent oral ulcers, genital ulcers and skin lesions. Behcet's Disease Current Activity Form (BDCAF) and Electronic Medical Record-based Activity Index (EMRAI) are commonly used internationally to evaluate the disease activity of BD.

Objectives: This study aimed to analyze the clinical characteristics, the level of disease activity, and the incidence of anxiety and depression for Chinese BD patients. Patients can perform self-management of disease with SSDM.

Methods: SSDM is a series of doctor-patient interactive applications for self-management of patients with chronic diseases. Patients can perform self-assessment with SSDM and upload the data to their authorized doctors. The SSDM patients' application system integrates the BDCAF and EMRAI into one scoring system. Patients could obtain scores of BDCAF and EMRAI by responding to one questionnaire through SSDM.

Results: From Apr 2017 to Jan 2020, 719 BD patients from 166 hospitals used SSDM, with a mean age of 38.97±12.71 (14–81) years old, and median disease duration of 20.8 months. 719 patients performed BDCAF and EMRAI self-assessment 1321 times, 252 patients repeat assessments for 855 times. The mean score of BDCAF and EMRAI are 3.57±2.17 and 3.44±1.90, respectively. The matching degree of the two score was 0.8747.

The most common clinical characteristics were oral ulcers (83.73%), ocular symptoms (62.03%), joint pain (50.07%). The comparative study between males and females revealed significant difference in the aspects of epididymitis (10.94% vs 0, p<0.001), genital ulcer (35.09% vs 44.93%, p=0.01), headache (24.15% vs 33.92%, p=0.01) and superficial thrombophlebitis (24.15% vs 33.92%, p=0.01). Table 1.

Table 1. Clinical Characteristics of different systems in Chinese BD patients.

Presence of clinical characteristics	Total	Males	Females	P value
Oral ulcer	83.73% (602)	86.42% (229)	82.16% (373)	0.14
Genital ulcer	41.31% (297)	35.09% (93)	44.93% (204)	0.01*
Epididymitis	4.03% (29)	10.94% (29)	0 (0)	<0.001**
Erythema	29.49% (212)	29.43% (78)	29.52% (134)	0.98
Skin lesions	26.84% (193)	28.68% (76)	25.77% (117)	0.4
Superficial thrombophlebitis	30.32% (218)	24.15% (64)	33.92% (154)	0.01*
Headache	30.32% (218)	24.15% (64)	33.92% (154)	0.01*
Joint pain	50.07% (360)	51.32% (136)	49.34% (224)	0.61
Arthritis	14.60% (105)	14.72% (39)	14.54% (66)	0.95
Gastrointestinal involvement	24.90% (179)	27.92% (74)	23.13% (105)	0.15
Ocular symptoms	62.03% (446)	62.64% (166)	61.67% (180)	0.79
Nervous involvement	23.78% (171)	25.66% (68)	22.69% (103)	0.37
Vascular involvement	15.72% (113)	18.11% (48)	14.32% (65)	0.18

*P values are for the comparison between the males and females.

Conclusion: Chinese BD patients can effectively perform BDCAF and EMRAI self-assessment with SSDM. The results of the assessment conducted by the two scoring systems are similar. The clinical characteristics of Chinese BD were different depending on gender.

Acknowledgments: Smart system of disease management (SSDM) was developed by Shanghai Gothic Internet Technology Co., Ltd.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.1470

SAT0251

ANGIOGRAPHIC PROGRESSION OF DISEASE IN LARGE-VESSEL VASCULITIS

K. A. Quinn^{1,2}, H. Dashora¹, M. Ahlman², P. Grayson¹. ¹National Institutes of Health, Bethesda, United States of America; ²Georgetown University Hospital, Washington, DC, United States of America

Background: Angiography is essential to detect vascular disease in patients with large-vessel vasculitis (LVV). Guidelines differ on the role of periodic angiography to monitor patients with LVV, in part because there is limited prospective data characterizing the natural history of angiographic disease. Development of new areas of arterial damage, even in periods of apparent clinical remission, has been reported in LVV; however, whether this is a common or rare phenomenon is unknown.

Objectives: To characterize angiographic progression of disease over time in Takayasu's arteritis (TAK) compared to giant cell arteritis (GCA).

Methods: Patients with GCA or TAK were recruited into a prospective, observational cohort. Patients fulfilled the 1990 American College of Rheumatology (ACR) Classification Criteria for TAK or modified 1990 ACR Criteria for GCA.

All patients underwent baseline magnetic resonance angiography (MRA) and a follow-up MRA at least one year after baseline per a standardized imaging protocol. The presence of angiographic lesions, defined as stenosis, occlusion, or aneurysm, was evaluated by visual inspection by a single reader who was blinded to clinical status. Angiographic lesions were evaluated in 4 segments of the aorta and in 13 branch arteries. On follow up angiography, the development of new lesions was recorded, and existing lesions were characterized as improved, worsened, or unchanged.

Results: 782 arterial territories were evaluated from 46 patients with LVV (TAK=28; GCA=18). Baseline characteristics were as follows: Age [TAK=24.8 years (18.6-34.9), GCA=64.8 years (57.8-73.9)], Female gender [TAK=21 patients (78%), GCA=16 patients (84%)], Disease duration [TAK=2.3 years (0.6-4.9), GCA 1.2 years (0.4-2.9)], Active clinical disease [TAK=12 patients (44%), GCA 12 patients (63%)]. The median time from initial MRA to follow up MRA was 2.4 years (1.5-3.1) for GCA and 1.6 years (1.3-3.3) for TAK.

There were 159 territories affected at the baseline visit in 41 patients [TAK: 108 territories in 26 patients, GCA: 51 territories in 15 patients]. The development of new territory involvement was infrequent and only occurred in patients with TAK (8 new lesions out of 352 baseline unaffected territories (2.3%) in 5 patients).

At follow up, existing arterial lesions improved in 25 (15.7%) territories, worsened in 6 (3.8%) territories, and stayed the same in 128 (80.5%) territories. There were no significant differences in angiographic progression of disease between the two diseases: improved - TAK 19 (17.6%), GCA 6 (11.8%); worsened - TAK 5 (4.6%), GCA 1 (1.9%); unchanged - TAK 84 (77.8%), GCA 44 (86.3%). Change in the branch arteries was more dynamic than change in the aorta (**Figure**).

Improvement in angiographic disease was observed in 8 (17%) patients (TAK=6, GCA=2). Worsening of disease was seen in 3 (7%) patients (TAK=2, GCA=1). In 5 (11%) patients (TAK=5, GCA=0), there were areas of improvement and other areas of worsening disease within the same patient.

Conclusion: Dynamic change in arterial lesions is observed in patients with TAK and GCA. Improvement and worsening of arterial lesions can be observed over time, even within the same patient. This observation suggests that both local factors at the level of the artery and systemic factors (e.g. treatment response) are likely associated with angiographic progression. The development of new angiographic lesions was infrequent, and only occurred in patients with TAK. These data may inform future guideline recommendations for angiographic monitoring in LVV.

References: N/A

Figure.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.1569

SAT0252 INCREASED MORTALITY FOR INDIVIDUALS WITH GIANT CELL ARTERITIS: A POPULATION-BASED STUDY

L. Barra¹, J. Pope¹, P. Pequeno², J. Gatley², J. Widdifield³. ¹Western University, London, Canada; ²ICES, Toronto, Canada; ³Sunnybrook Research Institute, Toronto, Canada

Background: Individuals with giant cell arteritis (GCA) are at increased risk of serious morbidity including cardiovascular disease and stroke. Yet the risk of mortality among individuals with GCA have produced conflicting reports¹.

Objectives: Our aim was to evaluate excess all-cause mortality among individuals with GCA relative to the general population over time.

Methods: We performed a population-based study in Ontario, Canada, using health administrative data among all individuals 50 years and older. Individuals with GCA were identified using a validated case definition (81% PPV, 100% specificity). All Ontario residents aged 50 and above who do not have GCA served as the General Population comparators. Deaths occurring in each cohort each year

were ascertained from vital statistics. Annual crude and age/sex standardized all-cause mortality rates were determined for individuals with and without GCA between 2000 and 2018. Standardized mortality ratios (SMRs) were calculated to measure relative excess mortality over time. Differences in mortality between sexes and ages were also evaluated.

Results: Population denominators among individuals 50 years and older with GCA and the General Population increased over time with 12,792 GCA patients and 5,456,966 comparators by 2018. Annual standardized mortality rates among the comparators steadily declined over time and were significantly lower than GCA mortality rates (Figure). Annual GCA mortality rates fluctuated between 42-61 deaths per 1000 population (with overlapping confidence intervals) during the same time period. SMRs for GCA ranged from 1.28 (95% CI 1.08,1.47) at the lowest in 2002 to 1.96 (95% CI 1.84, 2.07) at the highest in 2018. GCA mortality rates and SMRs were highest among males and younger age groups.

Conclusion: Over a 19-year period, mortality has remained increased among GCA patients relative to the general population. GCA mortality rates were higher among males and more premature deaths were occurring at younger age groups. In our study, improvements to the relative excess mortality for GCA patients over time (mortality gap) did not occur. Understanding cause-specific mortality and other factors are necessary to inform contributors to premature mortality among GCA patients.

References:

[1] Hill CL, et al. Risk of mortality in patients with giant cell arteritis: a systematic review and meta-analysis. *Semin Arthritis Rheum.* 2017;46(4):513-9.

Figure.

Acknowledgments: : This study was supported by a CIORA grant

Disclosure of Interests: Lillian Barra: None declared, Janet Pope Grant/research support from: AbbVie, Bristol-Myers Squibb, Eli Lilly & Company, Merck, Roche, Seattle Genetics, UCB, Consultant of: AbbVie, Actelion, Amgen, Bayer, Boehringer Ingelheim, Bristol-Myers Squibb, Eicos Sciences, Eli Lilly & Company, Emerald, Gilead Sciences, Inc., Janssen, Merck, Novartis, Pfizer, Roche, Sandoz, Sanofi, UCB, Speakers bureau: UCB, Priscila Pequeno: None declared, Jodi Gatley: None declared, Jessica Widdifield: None declared

DOI: 10.1136/annrheumdis-2020-eular.1879

SAT0253 ANTI-NEUTROPHIL CYTOPLASMATIC ANTIBODIES PREDATE SYMPTOM ONSET OF ANCA-ASSOCIATED VASCULITIS. A CASE-CONTROL STUDY

E. Berglin¹, A. J. Mohammad^{2,3}, J. Dahlqvist⁴, C. Eriksson⁵, J. Sjöwall⁶, S. Rantapää Dahlqvist⁵. ¹Umeå University, Dept of Public Health and Medicine/ Rheumatology, Umeå, Sweden; ²University of Cambridge, Cambridge, United Kingdom; ³Lund University, Lund, Sweden; ⁴Uppsala University, Uppsala, Sweden; ⁵Umeå University, Umeå, Sweden; ⁶Linköping University, Linköping, Sweden

Background: Presence of anti-neutrophil cytoplasmic autoantibodies (ANCA) is important for the diagnosis of ANCA-associated vasculitis (AAV) and reflects on-going immune processes. The timing of the antibody development and its contribution to disease is not well established.

Objectives: To investigate the presence of proteinase 3 (PR3)- and myeloperoxidase (MPO)-ANCA in blood samples collected from healthy individuals who subsequently developed AAV.

Methods: The Swedish National Patient Register of inpatient care and the Swedish Cause of Death Register were used to identify individuals assigned ICD codes for AAV (1) in the discharge summary or cause of death, respectively. The resulted cohort was then linked to the registers of 4 different biobanks to identify those with available predating blood samples. Diagnoses of AAV were confirmed and time point for onset of symptoms was identified by reviewing all available case records (1); 68 were classified as granulomatosis with polyangiitis (GPA), 14 as microscopic polyangiitis (MPA), and 4 as eosinophilic GPA (EGPA). The 86 cases (36 males, 50 females) had a mean (SD) age of 51.9 (16.9) years at sampling, with ≥1 sample (26% plasma, 74% serum samples). The sampling time point before onset of symptoms was mean (SD); 4.4 (3.1) years. Serum and plasma control samples (n=198; 82 males, 116 females; mean age (SD); 52.0 (16.5) years) were identified and matched for sex, age and date of sampling. The samples were first screened for ANCA using high sensitive ELISA (ORGANTEC diagnostika, Germany) and samples close to or above cut-off level were further analysed for capture PR3- and capture MPO-ANCA (ELISA; SVAR Life Science,