

of TAK activity. A ROC curve was used to determine the predictive value of TC/HDL-C ratio in patients group.

**Results:** The TG level was higher in patients with TAK than in the controls ( $p=0.000$ ). The TC, LDL-C, and HDL-C levels were significantly lower in patients with TAK than in the controls ( $p=0.000$ ,  $p=0.000$ , and  $p=0.000$ , respectively). The HDL-C level was significantly lower in the active TAK group than in the inactive TAK group ( $p=0.005$ ). The TC/HDL-C ratio was significantly increased in patients with disease activity ( $p=0.001$ ), and it exhibited a positive relationship with the high-sensitivity C-reactive protein level ( $r=0.234$ ,  $p=0.003$ ) and Kerr score ( $r=0.219$ ,  $p=0.031$ ). In addition, the TC/HDL-C ratio of 3.698 was determined as a predictive cut-off value of TAK (sensitivity 61.0%, specificity 78.6%, area under the curve=0.743) (Figure 1).

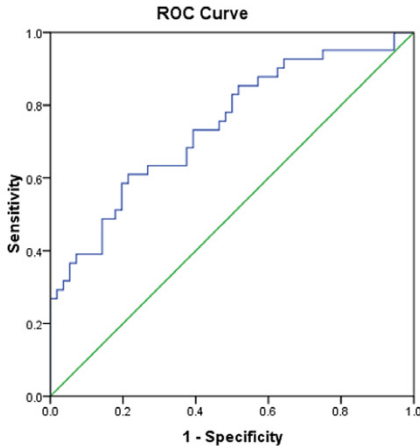


Figure 1. Receiver-operating characteristic curve for the TC/HDL-C ratio. The area under the curve was 0.743, with sensitivity and specificity of 61.0% and 78.6%.

**Conclusions:** For the first time, we showed that serum levels of TC, LDL-C, and HDL-C were significantly lower in patients with TAK, and the TC/HDL-C ratio has a positive relationship with the disease activity of TAK, suggesting that the TC/HDL-C ratio may be a potential indicator for monitoring the disease activity of patients with TAK.

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#### THU0328 PREDICTORS OF SEVERE DAMAGE IN ANCA-ASSOCIATED VASCULITIS: DATA FROM A MONOCENTRIC INCEPTION COHORT

M. Felicetti, R. Padoan, M. Cerchiaro, M. Zen, L. Punzi, F. Schiavon. *Department of Medicine DIMED, Operative Unit of Rheumatology, University of Padova, Padova, Italy*

**Background:** Granulomatosis with polyangiitis (GPA) and microscopic polyangiitis (MPA) are multi-systemic diseases associated with anti-neutrophil cytoplasmic antibodies (ANCA). Patients develop severe and irreversible damage, even in early stages of the disease, but data about prognostic factors are limited.

**Objectives:** To assess items and predictors of severe damage in a monocentric cohort of ANCA-associated vasculitis (AAV) patients, classified as GPA or MPA.

**Methods:** Clinical and serological data of patients, followed-up in a daily practice setting, were retrospectively revised. Severe damage, defined as a Vasculitis Damage Index (VDI)  $\geq 5$ , was assessed after 12 months and at last examination (LE). The five most important items, predictors of severe damage and their increase rate were analysed at the beginning and at the last examination.

**Results:** 69 patients were included, 53 (76.8%) classified as GPA and 16 (23.2%) as MPA. According to EUVAS classification 7 (10.1%) were affected by limited disease, 14 (20.3%) by early systemic disease, 35 (50.7%) by generalized disease and 13 (18.9%) by severe disease. Patients were middle aged at diagnosis ( $54.6 \pm 15$  years) with a diagnostic latency of  $9.6 \pm 16.4$  months, mostly caucasian (98.6%) and equally represented in sex (female 53.6%). Mean follow-up was  $54.5 \pm 41.9$  months. The number of flare/year at LE was significantly higher in anti-PR3 patients if compared to anti-MPO ( $1.0 \pm 1.1$  vs  $0.3 \pm 0.5$ ,  $p=0.028$ ). The VDI items most frequently observed are listed in Figure 1.

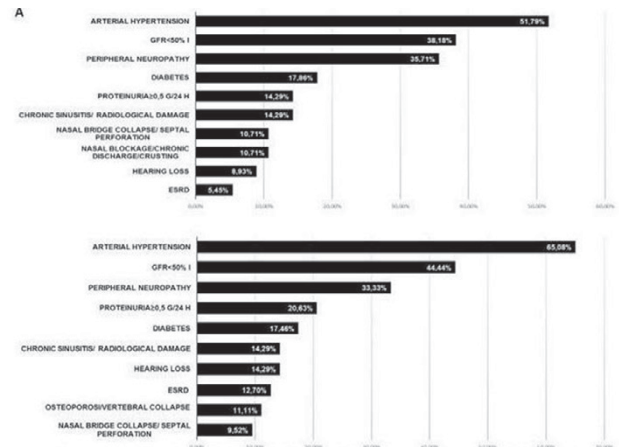


Figure 1: A Most frequent VDI items observed at 12 months (56 patients); B Most frequent VDI items observed at Last examination (63 patients). ESRD: End stage renal disease.

We measured their frequencies and increase rate from diagnosis to the LE: arterial hypertension increased from 3 (4.7%) to 41 (65.1%) (+60.3% (IC 95% 48–71%),  $p<0.0001$ ), GFR<50% from 1 patient (1.6%) to 28 (44.4%) (+42.8 (IC 95: 31–55),  $p<0.0001$ ), neuropathy from 4 (6.3%) to 22 (34.9%) (+28.6% (IC 18–41),  $p<0.0001$ ), diabetes from 0 (0%) to 11 (17.5%) (+17.5% (IC 10–29);  $p=0.0011$ ) and proteinuria>0.5 g 24 h from 1 (1.6%) to 13 (20.6%) (+19% (IC 11–31);  $p=0.0006$ ).

Severe damage, defined as  $VDI \geq 5$ , increased over time, being present in none patient at diagnosis and in 14 (25.9%) at last examination.

At univariate analysis, number of flares/year ( $p=0.012$ ), BVASv3 at diagnosis ( $p=0.03$ ), steroid pulses therapy ( $p=0.04$ ) and steroid cumulative dose ( $p=0.03$ ) were identified as predictive factors of severe damage in the first year. Conversely, creatinine at LE ( $p=0.04$ ), numbers of hospitalizations ( $p=0.009$ ) and steroid cumulative dose at LE ( $p=0.47$ ) were found to be predictors of long-term severe damage. Interestingly, ANCA pattern did not influence damage severity and only slightly differences in VDI items was noted between anti-PR3 and anti-MPO positive patients.

**Conclusions:** Our results highlights that knowing severe damage predictors is key in short and long term treat to target patient's management.

**Disclosure of Interest:** None declared

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#### THU0329 BUDD-CHIARI SYNDROME IN BEHÇET'S DISEASE: A RETROSPECTIVE MULTICENTER STUDY

L. Akyol<sup>1</sup>, B. Toz<sup>2</sup>, Ö. Bayındır<sup>3</sup>, O. Zengin<sup>4</sup>, D. Üsküdar Cansu<sup>5</sup>, M. Yiğit<sup>6</sup>, G. Yıldırım Çetin<sup>7</sup>, A. Omma<sup>8</sup>, A. Erden<sup>9</sup>, O. Küçükşahin<sup>10</sup>, M.S. Altuner<sup>1</sup>, B.S. Çorba<sup>11</sup>, A.U. Ünal<sup>12</sup>, H. Küçük<sup>13</sup>, A. KÜçük<sup>14</sup>, A. Balkarlı<sup>15</sup>, E. Gönüllü<sup>16</sup>, A.N. Tufan<sup>17</sup>, S. Bakırcı Üreyen<sup>18</sup>, S. Yılmaz Öner<sup>19</sup>, S. Kobak<sup>20</sup>, A. Yazıcı<sup>21</sup>, M. Özgenç<sup>1</sup>, A. Şahin<sup>22</sup>, S.S. Koca<sup>23</sup>, B. Erer<sup>2</sup>, A. Gül<sup>2</sup>, K. Aksu<sup>3</sup>, G. Keser<sup>3</sup>, A.M. Onat<sup>4</sup>, B. Kısacık<sup>4</sup>, T. Kaşifoğlu<sup>5</sup>, A. Çefle<sup>21</sup>, U. Kalyoncu<sup>9</sup>, M. Sayarlıoğlu<sup>1</sup>. <sup>1</sup>Internal Medicine, Div. of Rheumatology, Ondokuz Mayıs University School of Medicine, Samsun; <sup>2</sup>Internal Medicine, Div. of Rheumatology, Istanbul University School of Medicine, Istanbul; <sup>3</sup>Internal Medicine, Div. of Rheumatology, Ege University School of Medicine, Izmir; <sup>4</sup>Internal Medicine, Div. of Rheumatology, Gaziantep University School of Medicine, Gaziantep; <sup>5</sup>Internal Medicine, Div. of Rheumatology, Osmangazi University School of Medicine, Eskişehir; <sup>6</sup>Internal Medicine, Div. of Rheumatology, Pamukkale University School of Medicine, Denizli; <sup>7</sup>Internal Medicine, Div. of Rheumatology, Sütçü İmam University School of Medicine, Kahramanmaraş; <sup>8</sup>Internal Medicine, Div. of Rheumatology, Numune Hospital; <sup>9</sup>Internal Medicine, Div. of Rheumatology, Hacettepe University School of Medicine; <sup>10</sup>Internal Medicine, Div. of Rheumatology, Yıldırım Beyazıt University School of Medicine, Ankara; <sup>11</sup>Statistics, Ondokuz Mayıs University School of Medicine, Samsun; <sup>12</sup>Internal Medicine, Div. of Rheumatology, Marmara University School of Medicine, Istanbul; <sup>13</sup>Internal Medicine, Div. of Rheumatology, Gazi University School of Medicine, Ankara; <sup>14</sup>Internal Medicine, Div. of Rheumatology, Necmettin Erbakan University School of Medicine, Konya; <sup>15</sup>Internal Medicine, Div. of Rheumatology, Antalya Training and research hospital, Antalya; <sup>16</sup>Internal Medicine, Div. of Rheumatology, State hospital, Eskişehir; <sup>17</sup>Internal Medicine, Div. of Rheumatology, Uludağ University School of Medicine, Bursa; <sup>18</sup>Internal Medicine, Div. of Rheumatology, Training and Research hospital, Sakarya; <sup>19</sup>Internal Medicine, Div. of Rheumatology, Bakırköy Dr. Sadi Konuk Training and Research Hospital; <sup>20</sup>Internal Medicine, Div. of Rheumatology, Liv Hospital, Istanbul; <sup>21</sup>Internal Medicine, Div. of Rheumatology, Kocaeli University School of Medicine, Kocaeli; <sup>22</sup>Internal Medicine, Div. of Rheumatology, Cumhuriyet University School of Medicine, Sivas; <sup>23</sup>Internal Medicine, Div. of Rheumatology, Firat University School of Medicine, Elazığ, Turkey

**Background:** The aim of this study was to determine the demographic, clinical,

laboratory and management characteristics along with the clinical course of Labry-Chiari syndrome (BCS) associated with Behçet's disease (BD).

**Methods:** Sixty patients with BD with BCS (40 male, 20 female) were identified in 23 rheumatology centers (Group I). A total of 169 consecutive patients (100 male, 69 female) with BD who did not have clinically apparent BCS during the follow-up were evaluated as the control group (Group II).

**Results:** Comparison of the demographic and clinical findings between the Group I and the Group II were as follows: The mean age of disease onset was 23.1 ± 6.7 years vs. 26.8 ± 0.6 years ( $p=0.013$ ), mean age at diagnosis was 27.2 ± 0.9 vs. 30.4 ± 0.6 years ( $p=0.008$ ), arthritis was 10% vs. 28.4% ( $p=0.002$ ), papulopustular skin lesion was 48.3% vs 69.2% ( $p=0.003$ ), central nervous system (CNS) involvement 10% vs. 3% ( $p=0.03$ ), cardiac involvement was 16.7% vs. 2.4% ( $p<0.001$ ), superficial thrombophlebitis was 23.3% vs. 4.7% ( $p<0.001$ ), and deep vein thrombosis was 58.3% vs. 15.4% ( $p<0.01$ ). On diagnosis 50% of BD patients with BCS were classified as Child-Pugh A. Inferior vena cava obstruction was observed in 38.3% and portal vein thrombosis was seen in 3.3% of the patients with BCS. Mortality in BCS patients with BD was 18.3%. BCS related treatment after diagnosis in patients with BD were as follows: 71.7% of patients were treated with monthly cyclophosphamide intravenous pulses, 53.3% received intravenous pulse corticosteroids, 55.9% used azathioprine, 54.2% had warfarine treatment, and 50.8% were treated with low molecular weight heparin.

**Conclusions:** This study shows a higher frequency of cardiac and CNS involvement, superficial thrombophlebitis, papulopustular skin lesion, deep vein thrombosis in BD patients with BCS. Arthritis was observed less common in BD patients with BCS. The mean age onset was lower in patients with BCS. Medical treatment with immunosuppressive agents and anticoagulation appears to be the treatment of choice in BD patients with BCS. The majority of the patients with BCS were Child-Pugh class A on diagnosis. The inferior vena cava is frequently involved and, often associated with deep vein thrombosis and cardiac involvement.

**Disclosure of Interest:** None declared

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#### THU0330 MYCOBACTERIAL CORD FACTOR ANALOG INDUCES HIGH IL-6 SECRETION AND MINCLE RECEPTOR EXPRESSION IN PATIENTS WITH TAKAYASU ARTERITIS

N. Gupta<sup>1</sup>, J. Kabeer Doss<sup>2</sup>, H. Mohan<sup>2</sup>, R. Goel<sup>2</sup>, D. Danda<sup>2</sup>. <sup>1</sup>CHRISTIAN Medical College, VELLORE, Vellore, India; <sup>2</sup>Clinical Immunology & Rheumatology, CHRISTIAN Medical College, VELLORE, Vellore, India

**Background:** Association between Takayasu Arteritis (TA) and Tuberculosis (TB) has been in vogue for years. Scientific evidence for this association is limited.

**Objectives:** To study pro-inflammatory cytokine responses and mRNA expression in patients with TA on exposure to Trehalose-6,6-dibehenate (TDB), a synthetic analogue of mycobacterial cord factor in comparison with healthy controls.

**Methods:** Patients with type V TA satisfying 1990 ACR criteria and age and sex matched healthy controls were recruited. 10 ml blood was collected in heparin coated tube. PBMCs were separated by density gradient centrifugation. PBMCs were cultured with and without 5 µg/ml and/or 50 µg/ml of TDB for 48 hours in RPMI medium at 5% CO<sub>2</sub> incubator. IL-6, TNF-α and IL-17 were measured in cell culture supernatant. RNA was extracted from the cells and quantification of gene expression was performed using sequence specific primers with SYBR green in Step One Plus™ Real-Time PCR Systems (Applied Biosystems).

**Results:** Twenty two TA patients and 21 age and sex matched healthy controls were recruited. Baseline characteristic of cases included median (range) age: 26.5 years (15–49), male:female ratio of 5:17, ITAS-CRP2010: 7 (1–26) and DEITAK: 7.5 (1–21). Both patients and controls showed response by secreting IL-6 and TNF-α upon stimulation with TDB. Relative induction of IL-6 was significantly higher in TA [31.88 (0.74–168)] as compared to healthy controls [1.931 (0.644–8.21);  $p<0.002$ ]. IL-17 was undetectable even upon TDB stimulation. Relative mincle expression was significantly upregulated by TDB in TA1.03 (0.623–1.346) fold, as compared to healthy controls 0.43 (0.36–0.57) fold ( $p<0.05$ ). Relative gene expressions of IL-6, IL-8, TNF-α, IFN-γ and BCL-10 were not significantly different between TA and healthy controls.

**Conclusions:** Stimulation with TDB led to higher secretion of IL-6 and increased mincle expression in PBMCs of TA patients as compared to healthy controls.

**Disclosure of Interest:** None declared

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#### THU0331 MYELOPEROXIDASE DEPLETION IS A SELECTIVE FEATURE OF TAKAYASU ARTERITIS AND PREDICTS THE CLINICAL OUTCOME

A.A. Manfredi, G.A. Ramirez, V. Canti, E. Tombetti, M. Baldini, E. Baldisera, P. Rovere-Querini, N. Maugeri. San Raffaele Scientific Institute, Milano, Italy

**Background:** Takayasu's arteritis (TA) is a rare large-vessel vasculitis characterized by persistent remodelling of the vessel walls. The role of innate immune cells in TA is poorly understood. Biomarkers to be used for assessment of TA activity and clinical outcome are missing. A trimodal pattern of myeloperoxidase (MPO) distribution (simultaneous occurrence of neutrophils with complete depletion, reduced and normal content of the enzyme) is detectable in the very early phase

of acute myocardial infarction and has been associated with a burst of neutrophil interaction with activated platelets<sup>1</sup>

**Objectives:** Here, we aimed at characterizing the phenotype of neutrophils and platelets in patients TA and correlating these biological findings with clinical data.

**Methods:** neutrophil MPO expression has been studied in 93 subjects, including 21 TA patients, 20 age- and sex-matched healthy donors that served as controls, 25 patients with chronic stable atherosclerosis (CSA), eight patients with giant cell arteritis (GCA), five patients with granulomatosis with polyangiitis (GPA), four patients with eosinophilic GPA (EGPA) and ten patients with polymyalgia rheumatica (PMR). Blood samples were collected and processed as described<sup>1-3</sup>. Neutrophil MPO content, platelet P-selectin and High-Mobility Group B1 (HMGB1) in platelet derived microparticles (PD<sub>μ</sub>P) release were assessed by flow cytometry. TA patients were then followed up for a median time of 3.43 years.

**Results:** The trimodal distribution of neutrophils MPO content was identified in 17/21 TA, 1/8 GCA, 0/10 PMR, 0/25 CSA, 0/5 GPA and 0/4 EGPA patients; moreover in 0/20 healthy controls (ANOVA,  $F=15.22$ ,  $p<0.0001$ ). Neutrophil MPO content and the presence of neutrophils with complete MPO depletion in TA patients correlated inversely with i) platelet P-selectin expression ( $p<0.01$ ), ii) the fraction of HMGB1<sup>+</sup>-PD<sub>μ</sub>P ( $p<0.01$ ) and iii) disease duration, implicating an association of platelet and neutrophil activation with the disease natural history. In fact, the Kaplan Mayer analysis reveals that TA patients that had neutrophils with complete MPO depletion are at a significantly increased risk of ischemic complications during the follow up (long-rank=4.864,  $p=0.027$ , HR=36.15 abd CI-95%=0.15–7.51).

**Conclusions:** Neutrophils and platelets are significantly activated in TA. Paroxysmal neutrophils activation, leading to complete MPO depletion, is a common feature and predict ischemic events and as such the clinical disease outcome.

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**Disclosure of Interest:** None declared

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#### THU0332 CARDIAC INVOLVEMENT IN POLYARTERITIS NODOSA: A RETROSPECTIVE PATHOLOGICAL STUDY OF 37 AUTOPSY CASES

O. Zimba<sup>1</sup>, M. Bagriy<sup>2</sup>. <sup>1</sup>the Department of Internal Medicine, Danylo Halytsky Lviv National Medical University, Lviv; <sup>2</sup>Department of Pathological Anatomy, Ivano-Frankivsk National Medical University, Ivano-Frankivsk, Ukraine

**Background:** Cardiac involvement is a significant cause of the death and disability in systemic vasculitis. The comprehensive analysis of histopathologic findings in polyarteritis nodosa (PN) can help better understand mechanisms of excessive cardiovascular risk in patients with systemic vasculitis.

**Objectives:** To investigate the variation of cardiac pathological findings in autopsy cases of PN.

**Methods:** A retrospective analysis of cardiac pathological changes was performed in 37 autopsy cases of PN over period of 15 years. There were 28 males and 9 females, ranging from 23 to 85 years. The median age at disease onset was 35, 7 years; the median duration of disease was 2.1 years with a range of 2 month to 7 years.

**Results:** The destructive-productive vasculitis of the coronary arteries have been found in 30 cases (81.1%) of PN. The vessels most affected were myocardial, and epicardial medium and small-sized arteries. Histologically, the remodelling of coronary artery tree in PN had a wide range of acute and chronic changes that likely were depended on the duration of the disease. There were three types of pathological findings: (1) arteritis with predominantly destructive changes; (2) arteritis with predominantly proliferative changes; (3) destructive-productive arteritis. The early phase of PN has been characterized by abnormalities of vessels wall from mucoid swelling to fibrinoid necrosis. The most common was panarteritis with involvement of all layers of the arterial wall, and inflammatory responses with intramural, and perivascular infiltrates, mainly composed of lymphocytes, and neutrophils. However, endo-, meso-, and periarteritis also were observed in some cases. The most remarkable lesions in coronary arteries were the nodules visible to the naked eye along coronary arteries. They were present in 9 cases (30%), and can be described as well-demarcated nodular thickening of the artery walls with size from 0.1 to 0.4 cm. The pathological basis of nodules are areas of focal inflammation, destruction and aneurysmal dilatations of artery wall. In cases of chronic course of PN, the intimal hyperplasia due to proliferation of endothelial cells have been observed. Interestingly, that this productive endarteritis with luminal narrowing of coronary arteries was common in patients who were exposed to different types of occupational xenobiotic (silica dust, pesticides, insecticides, solvents, heavy metals). In 5 (16.7%) cases, luminal occlusion due to intimal proliferation, fibrosis and thrombus formation