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### CORRELATIONS AMONG VASCULAR ULTRASOUND ABNORMALITIES OF THE TEMPORAL AND LARGE ARTERIES IN GIANT CELL ARTERITIS

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**Background:** Vascular ultrasound (VUS) is a sensitive and specific method for evaluating giant cell arteritis (GCA). Understanding patterns of temporal artery (TA) and large artery involvement may be important for aiding in diagnosis.

**Objectives:** To determine correlations among VUS abnormalities in patients with GCA.

**Methods:** We performed a retrospective study among 503 patients that underwent VUS to evaluate suspected or known GCA at an academic medical center, 2013-2017. Demographics, clinical features, VUS reports, and parietal (TA-P) branches were abnormal if halo sign or hyperechoic wall thickening without acute arteritis. Among temporal and large arteries. Significance was determined using Fisher’s exact test with Bonferroni correction.

**Results:** Among 139 patients, 50% were diagnosed before VUS (median disease duration 17 months). Median age at VUS was 73 years; 75% were female and 93% White. Forty patients (29%) had TA biopsy-proven GCA; an additional 14 (10%) had biopsy-proven giant cell aortitis. Prevalence of abnormalities of TAs and large arteries was similar (20% of right and 27% of left TAs; 20% of right and 24% of left large arteries). VUS was consistent with acute arteritis in 32%, no arteritis in 53%, and hyperechoic wall thickening without acute arteritis. Among patients diagnosed with GCA by the treating physician (n=139), we determined correlations between abnormal vessels using phi coefficients (ρ). We created composite variables representing each TA and its branches, and the left and right CCA, SCA, and AXA to test correlations between temporal and large arteries. Significance was determined using Fisher’s exact test with Bonferroni correction.

**Methods:** This is an ongoing 1-year prospective cohort study. 37 consecutive patients with newly diagnosed PMR/GCA were included. Aortic pulse wave velocity (PWV) and aortic augmentation index normalized to heart rate of 75 beats per minute (Aix@75) were measured at baseline and subsequently at 1st and 4th months of treatment initiation with oral prednisolone.

**Results:** Of 37 patients, 3 pts. were excluded from the study because of lack of interest or a change in the initial diagnosis. Of all included pts. 61.8% were female and mean age was 71 (69-74) years. At diagnosis, 24 pts. presented with pure PMR symptoms, 2 pts. with pure cranial GCA, 8 pts. with concurrent PMR and GCA. The mean of eyehotretochrome sedimentation rate (ESR) and C-reactive protein (CRP) at baseline were 62.3±22.9 and 46.4±43.7, respectively. Aix@75 was significantly decreased after 4 months of treatment initiation (from 26.1±11.6 to 19.5±11.5, p=0.016). Though aortic PWV was decreased after 4 months of treatment initiation (from 12.3±2.4 to 11.6±2.4), the results were not statistically significant (p=0.07). We did not find any significant changes at 1st month, nor in aortic PWV neither in Aix@75.

**Conclusion:** Steroid treatment may improve arterial stiffness in PMR/GCA patients due to suppression of the inflammatory process. However this is a time consuming effect and may not be seen as early as the first month.

**REFERENCES:**


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Among the 29 patients who had vascular involvement at initial visit, 7 patients had only received colchicine. The remaining 65 patients fulfilled ISG criteria within a median duration of 1.5 years (IQR: 1-4.25). All but 2 patients who developed eye involvement during the follow-up had fulfilled ISG criteria after a median follow-up of 1.5 years (IQR: 70.35%). Most of major organ involvement led to a diagnosis of BS at initial visit despite not fulfilling ISG criteria in 37, vascular involvement in 29, nervous system involvement in 10, arthritis in 13, neurologic involvement in 2 patients and saw that 53 had fulfilled ISG criteria in the meantime. Among the 51 patients that we were not able to contact, 17 had fulfilled criteria while they were being followed in our clinic. Thus, a total of 70 (35%) had major organ involvement. The types of major organ manifestations, failure to recognize BS and treat promptly may lead to permanent damage in these organs.

Objectives: The aim of this study is to highlight the magnitude of this problem by surveying the frequency, presentation patterns and outcome of patients who did not fulfill ISG criteria when they presented to our clinic, but were followed and treated for manifestations strongly suggesting BS.

Methods: We conducted a retrospective chart review of all BS patients who were registered between 2003 and 2008. Among these 2385 patients, 199 (8%) BS patients who did not fulfill ISG criteria at their initial visit were included in this study. Patients were called and a standard form was used for collecting demographic characteristics, BS manifestations at initial visit and during follow-up and treatment.

Results: Among the 199 patients (M:W: 90:109, mean age: 34 ± 11 years) who did not fulfill ISG criteria when they presented to our clinic, 70 (35%) had major organ involvement. The types of major organ involvement that led to a diagnosis of BS at initial visit despite not fulfilling ISG criteria were eye involvement in 37, vascular involvement in 29, nervous system involvement in 3 and gastrointestinal (GI) involvement in 1 patient. Thirty-five patients (18%) had a family history of BS.

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