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AB1132 THE ROLE OF PET/CT IN THE MANAGEMENT OF GIANT CELL ARTERITIS

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Background: Giant cell arteritis (GCA) is a large vessel vasculitis that affects the aorta and/or its major branches including the superficial temporal artery. Together to cranial symptoms such as headache and visual disturbances, extra cranial manifestations have been widely reported, sometimes as unique clinical presentation. Several imaging modalities are available to evaluate aortic involvement including fluorodeoxyglucose (FDG) positron emission tomography (PET), however there are few reports that analyzed the impact of the findings of this advanced imaging in predicting outcomes of the disease.

Objectives: To assess the utility of PET in disease extension assessment to predict, together to clinical manifestations, the disease evolution.

Methods: We retrospectively reviewed all the clinical records of patients receiving a diagnosis of large vessel vasculitis from 1st January 2010 to 1st January 2016 at a tertiary immunorheumatology clinic of a university Hospital, who underwent a PET. Clinical, laboratory, and imaging data were collected. Non-parametric analysis was performed.

Results: We recruited 19 patients (10 females, 52.6%). The median age was 74.0 [65.5-76.0]; at the diagnosis, the median erythrocyte sedimentation rate (ESR) was 65.5 [49.0-86.0], while C-reactive protein (CRP) was 8.5 [5.5-14.0]. 12 patients showed a typical cranial GCA (63.2%), while 7 (36.8%) were diagnosed with extracranial GCA. The two groups were comparable at diagnosis for age, gender, median ESR and CRP. Interestingly, the PET was significative for aortitis not only in the 7 patients with extracranial involvement, but also in 7/12 patients with cranial GCA (58.3%). Along a median follow-up of 15 months [4.5-26.5], 4 relapses were reported. Notably, all the relapsers were males and showed both aortic and cranial involvement. In a multivariate model, male gender was the only predictor of relapse ($p=0.02$), while age at onset, clinical subset (cranial vs. extracranial) and steroid dose did not fit the model

Conclusion: The use of PET in GCA is relevant in the assessment of extension of disease since a significative number of patients without cranial symptoms in the end resulted to have large vessel involvement. In addition, PET is useful in identifying patients with cranial involvement that have also aortic inflammation since they seems to have worse prognosis.

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AB1133 AUTOMATED ASSESSMENT (AUTOCAP) OF NAILFOLD CAPILLARY NUMBER VERSUS MANUAL COUNTING IN SYSTEMIC SCLEROSIS PATIENTS WITH DIFFERENT CAPILLAROSCOPIC PATTERNS

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Background: The nailfold videocapillaroscopy (NVC) analysis allows microvascular detection of possible markers of severity and progression in systemic sclerosis (SSc), as reduced capillary number, which has been associated with a high risk of developing disease complications (i.e.

digital ulcers over time) (1-2). A recent study validated an automated counting system (AUTOCAP) for the absolute nailfold capillary number in SSc patients by analysing the capillaroscopic images (3).

Objectives: To evaluate the performance of this automated software for absolute nailfold capillary number counting, in SSc patients with different NVC patterns of microangiopathy.

Methods: 183 random SSc patients collected at both Genova and Ghent Divisions of Rheumatology were enrolled (LeRoy 2001 or ACR 2013 criteria, mean age 55±13 year, mean disease duration 5.5±6.8 years) and classified by NVC in the following patterns: 28 "not specific", 37 "early", 89 "active", 29 "late". 8 fingers for each patient were analysed, counting the number of nailfold capillaries manually and by the AUTOCAP software (DS Medica, Italy) along a millimetre in each finger image. The mean capillary number value of the eight finger images was calculated. The software reliability was assessed through calculation of the intraclass correlation coefficient (ICC) between automatic and manual counting.

Results: The mean number of capillaries assessed by manual vs automatic counting was as follows: 5.23±1.7 vs 5.47±1.3 in the total group of SSc patients, 5.91±1.2 vs 6.87±1.2 in the "not specific", 7.23±1.4 vs 5.67±1.1 in the "early", 4.67±1.1 vs 5.16±1.2 in the "active" and 3.72±1.5 vs 4.85±1.1 in the "late" pattern of microangiopathy. The higher standard deviation observed for automatic counting was 1.23 in the "not specific" group. The following ICC's were obtained respectively for total patients, "not specific", "early", "active", and "late" NVC patterns: 0.53, 0.51, 0.48, 0.50 and 0.66. The mean values for the manual versus automatic capillary counting assessed by the two centres in all SSc patients were respectively: 5.92±1.8 and 5.02±1.1 for Genova centre, and 4.71±1.5 and 5.83±1.4 for Ghent centre. The automatic counting confirmed that capillary number progressively reduces from "early" to "active" to "late" NVC pattern of microangiopathy in SSc.

Conclusion: This study reports for the first time the good reliability of AUTOCAP software in nailfold capillary number counting in SSc patients with different patterns of microangiopathy. The use of automated counting software need to standardize nailfold capillary assessment among different Rheumatological centres.

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AB1134 IMPROVING THE STANDARDISATION OF DIAGNOSTIC LABORATORY TESTS FOR RF AND ACPA THROUGH THE ESTABLISHMENT OF A NEW INTERNATIONAL REFERENCE MATERIAL

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Background: Rheumatoid arthritis is a debilitating chronic inflammatory disease. Its laboratory diagnosis relies mainly on testing for the presence of two groups of autoantibodies in patient's serum: rheumatoid factor (RF) and anti-citrullinated protein antibodies (ACPA). Most RF assays are standardised against W1066, the WHO international standard rheumatoid arthritis serum established in 1968, or 64/002, the British Standard rheumatoid arthritis serum, which is the same material. Stocks of W1066 are becoming exhausted which triggered a decision by NIBSC and WHO to prepare a new standard preparation intended to replace W1066.

Objectives: Primarily, we have a responsibility to ensure the continuity of W1066 as a calibrator in RF agglutination-based assays. However, science has progressed and ACPA are now recognised as equally important to RF in the diagnosis of rheumatoid arthritis which is reflected in the ACR/EULAR 2010 classification guidelines. Therefore, we intend to assign the new standard values in international units to both RF and ACPA. In addition, some assays look at isotype-specific RF, so we will assess whether we can establish nominal values for the most common isotypes, IgM-RF and IgA-RF.

Methods: A pool of rheumatoid arthritis serum was prepared and dispensed into ampoules, lyophilised and sealed under an inert nitrogen atmosphere. An international collaborative study was organised with expert laboratories, including commercial kit manufacturers and medical