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Background: Hydroxychloroquine (HCQ) is a well-tolerated drug that contributes to downregulating the immune response against autoantigens and it has been used in several autoimmune diseases. In systemic sclerosis (SSc) it is used to treat inflammatory arthritis without proof of efficacy.

Objectives: Our aim was to evaluate the use of HCQ and its impact on Health Assessment Questionnaire disability index (HAQ-DI) and the Cochin Hand Function Status (CHFS). In a large SSc cohort compared to a propensity matched group of SSc patients not using HCQ.

Methods: SSc patients from the European Scleroderma Trials and Research (EUSTAR) data base treated with HCQ for at least 6 months were evaluated. Demographic and clinical data, concomitant drugs, duration of HCQ treatment and reasons for its discontinuation, HAQ-DI and CHFS (at least 2 evaluation) were recorded and were the outcome variables of interest. Statistical analysis was performed using propensity score matching for age, gender, disease duration, corticosteroids, immunosuppressives, vasoactive drugs, DMARDs in a 3:1 control:HCQ ratio. Standard descriptive statistics and Student's t-test and Chi-square test were used to assess the propensity-matched groups.

Results: 1,636 of 17,805 SSc patients (9.2%) were treated with HCQ for at least 6 months; out of these 3% (50/1636) had at least a baseline and follow-up HAQ-DI evaluation, (and 44/1636 (2.7%) had at least a baseline and follow-up CHFS evaluation. Propensity matching assured that pts were matched for demographic variables such as gender (mean on HCQ vs no HCQ:females:92.0 vs 85.3), age(49.8 vs 49.97yrs) disease duration(8.3 vs 9.1 yrs), limited disease(55.3 vs 62.6%) as well as background medications (P>0.1-0.9). We did not find any significant changes in HAQ or CHFS (difference in slope) over 365 days of treatment, comparing the HCQ-treated group to the non-HCQ treated patients (p=0.240 for both (Figure 1).

Conclusion: Results from the EUSTAR registry showed that HCQ was used by 9.2% of SSc patients. HCQ use did not improve the HAQ or CHFS, comparing HCQ users to non-HCQ users.

Figure 1. HAQ trend and CHFS trend over the time

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POS0322

CORRELATION BETWEEN QUANTITATIVE COMPUTED TOMOGRAPHY AND DISEASE ACTIVITY IN SYSTEMIC SCLEROSIS

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Background: High Resolution Computed Tomography (HRCT) is the gold standard to evaluate Interstitial Lung Diseases (ILDs) extent and severity. Quantitative Computed Tomography (QCT) is a promising tool as it provides an operator-independent assessment of ILD extent. Even if there are emerging data on QCT in Systemic Sclerosis (SSc), its correlation with disease activity (DA) has not been yet studied.

Objectives: To evaluate the correlation between QCT score and DA in an Italian cohort of SSc patients.

Methods: A multicentric, observational study was conducted in three Italian rheumatological centers.

Adult SSc patients classified according to the ACR/EULAR 2013 criteria [1] were assessed with pulmonary function tests, HRCT and for DA. CT images were analyzed quantitatively with the densitometric radiomic data obtained through a free open software – Mean lung attenuation (MLA), Standard Deviation (SD), Kurtosis, Skewness and Lung volume. DA assessment was conducted according to EUSTAR index [2]: a score ≥ 2.5 was considered indicative of high disease activity.

Age below 18 and pregnancy were considered exclusion criteria. We used Student's T test to evaluate the means of the parameters, Pearson's r test for correlations, receiver operating characteristics curve to define the cutoff values of the significant details, and linear regression with collinearity test to define the role of the details. P value <0.05 was considered statistically significant.

Results: Sixty patients were enrolled (male 8, female 52), with mean age 53.2 years (SD 15.6) and mean disease duration 5.3 years (SD 4.2). QCT indexes distribution was different in high DA vs low DA SSc patients. In particular mean lung attenuation (MLA, -834.7 vs -812.1, p = 0.03), standard deviation (95.9 vs 102, p = 0.03), skewness (2.2 vs 1.7, P = 0.006) and kurtosis (5.5 vs 3.3, p = 0.009) of the parenchymal lung and skewness (3.1 vs 2.8, p = 0.03) of the whole lung were statistically different. DA correlates with MLA (r = 0.28, p = 0.003), standard deviation (r = 0.21, p = 0.02), skewness (r = -0.32, p = 0.001) and kurtosis (r = -0.29, p = 0.001) of the parenchymal lung and MLA (r = 0.25, p = 0.006), skewness (R = -0.27, p = 0.003), kurtosis (r = -0.21, P = 0.02) of the whole lung. The skewness of the parenchymal lung was the QCT index with the best performance in identifying high DA SSc patients (cutoff value ≤ 1.85 ; area under the curve 0.74, p = 0.005; sensitivity 79.5%, specificity 68.7% accuracy 76.6%).

Conclusion: To our knowledge, this is the first study which correlate the QCT score with DA in SSc patients. Our results suggest that QCT can identify SSc patients with high DA score. This could open a scenario of new applications as an operator-independent contribution in DA scores with a potential role in clinical practice. Further studies are needed to confirm the data and to better identify the most suitable parameters for the purpose.

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POS0323

ANTI PM-SCL ASSOCIATED AUTO IMMUNE DISEASES: MULTICENTRIC COHORT OF 128 PATIENTS

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