REFERENCES:

- [1] Hsu CY, et al. Comparing the burdens of opportunistic infections among patients with systemic rheumatic diseases: a nationally representative cohort study. *ARTHRITIS RES THER* 2019, 21(1):211.

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POS0886

COULD BE INTERSTITIAL MYOCARDITIS A FEATURE OF THE ANTISYNTHEASE SYNDROME?

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Background: Antisynthetase syndrome (ASS) is characterized by inflammatory myopathy, interstitial lung disease, arthritis, mechanical hands and Raynaud phenomenon, among other features. Recent studies have shown that idiopathic inflammatory myopathies (IIM) may develop cardiac involvement, either ischemic (coronary artery disease) or inflammatory (myocarditis). We wonder if characteristic lung interstitial involvement (interstitial lung disease) that appears in patients with the ASS may also affect the myocardial interstitial tissue. New magnetic resonance mapping techniques could detect subclinical myocardial involvement, mainly as edema (increase extracellular volume in interstitium and extracellular matrix), even in the absence of visible late Gadolinium enhancement (LGE).

Objectives: Our aim was to describe the presence of interstitial myocarditis in a group of patients with ASS.

Methods: Cross-sectional, observational study performed in a tertiary care center. We included 13 patients diagnosed with ASS (7 male, 53%, mean (SD) age at diagnosis 56,8 years ($\pm 11,8$)). The patients were consecutively selected from our outpatient myositis clinic. Myositis specific and associated antibodies were performed by means of line immunoblot (EUROIMMUN[®]). Cardiac magnetic resonance (CMR) was performed on all patients. The study protocol includes functional cine magnetic resonance and standard late gadolinium enhancement (LGE), as well as novel parametric T1 and T2 mapping sequences (modified look locker inversion recovery sequences - MOLLI) with extracellular volume (ECV) calculation 20 minutes after the injection of a gadolinium-based contrast material.

Results: CMR could not be performed in one patient due to anxiety. All patients studied (12) had a normal biventricular function, without alteration of segmental contraction. A third (4 out of 12, 33%) of the studied patients showed elevated T2 myocardial values without focal LGE, half of them (2/4) with an elevated ECV, consistent with myocardial edema. Two patients with normal T2 values showed unspecific LGE focal patterns, one in the right ventricle union points and another with mild interventricular septum enhancement (Figure 1). None of the patients studied refer any cardiac symptomatology. All the four patients with T2 mapping alterations (100%) had interstitial lung involvement, but only 4 out of 8 (50%) of the rest ASS patients without T2 mapping positivity. The autoimmune profile was as follows: 10 anti-Jo1/Ro52, 1 anti-EJ/Ro52, 2 anti-PL12.

Figure 1. Cardiac magnetic resonance images from ASS patients.

Conclusion: Myocarditis, although subclinical, appears to be a feature in ASS patients. T1 and T2 mapping sequences might be valuable to detect and monitor subclinical cardiac involvement in these patients. The possibility that the same etiopathogenic mechanism may be involved in the interstitial tissue in lung and myocardium is raised. More studies must be done in order to assert the prevalence of myocarditis in ASS.

REFERENCES:

- [1] Dieval C et al. Myocarditis in Patients With Antisynthetase Syndrome: Prevalence, Presentation, and Outcomes. *Medicine (Baltimore)*. 2015 Jul;94(26):e798.
- [2] Myhr KA, Pecini R. Management of Myocarditis in Myositis: Diagnosis and Treatment. *Curr Rheumatol Rep*. 2020 Jul 22; 22:49.
- [3] Sharma K, Orbai AM, Desai D, Cingolani OH, Halushka MK, Christopher-Stine L, Mammen AL, Wu KC, Zakaria S. Brief report: antisynthetase syndrome-associated myocarditis. *J Card Fail*. 2014 Dec;20(12): 939-45.

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TRANSCRANIAL ELECTRICAL STIMULATION IS SAFE AND EFFICIENT IN PATIENTS WITH SYSTEMIC AUTOIMMUNE MYOPATHIES

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Background: There is currently few information regarding rehabilitation in patients with systemic autoimmune myopathies (SAMs). Transcranial direct current stimulation (tDCS) has shown promising results for the motor performance of healthy individuals as for patients with, e.g., post-stroke hemiparetic limbs.

Objectives: The present study was aimed to assessing the safety and efficiency of tDCS in patients with SAMs.

Methods: This study is a prospective, randomized, sham controlled, double blind, and clinical trial with ethical approval. Eighteen adult patients with dermatomyositis, polymyositis, antisynthetase syndrome or immune-mediated necrotizing myopathies in remission or with minimal disease activity were enrolled from 2018 to 2019. Patients were allocated randomly in two groups to receive sham or active tDCS with 2mA amplitude submitted for 20 minutes for three consecutive days. The 5x7cm sponge-electrodes were positioned with the anode over the left (C1) or right (C2) - contralateral to the dominant limb, whereas the cathode over the FP2 or FP3, respectively (10-10 EEG electrodes placement). The groups were evaluated in four moments: pre-stimulation, and 30 minutes, 3 weeks and 8 weeks post-tDCS. They were evaluated in the different moments with International Myositis Assessment and Clinical Studies Group set scores, Short-Form health survey (SF-36), state-trait anxiety inventory (STAI), Beck depression inventory (BDI), timed up-and-go test (TUG), time-stands test (TST), isokinetic extension and flexion testing of bilateral knee and elbow. A specific security questionnaire for tDCS was used after the active or sham stimulation in all patients.

Results: The demographic data, kind of myositis, disease duration, and disease status (all with low disease activity) were comparable between both active and sham tDCS groups. After interventions, there was improvement of values of patient's VAS ($P=0.042$) and serum levels of creatine phosphokinase ($P=0.005$), independent of the group. Moreover, in active tDCS group, the physical aspects of SF-36 in week 8 ($P<0.001$), mean and better TST at each evaluation ($P<0.001$), absolute peak tork ($P<0.001$) and peak tork adjusted for body weight values ($P<0.001$) of stimulated inferior limb extension also improved. No differences were observed in the STAI, BDI, or TUG in both groups. The patients' adherence to the protocol was 100% and no adverse event was reported, including disease relapsing.

Conclusion: This unprecedented study evidences the safety of tDCS, besides the potential efficiency in improving rehabilitation of tDCS in SAMs. More studies with a large samples and period of tDCS sessions are necessities to corroborate with the present study.

REFERENCES:

- [1] Lundberg IE, et al. 2017 European league against rheumatism/ American College of Rheumatology classification criteria for adult and juvenile idiopathic inflammatory myopathies and their major subgroups. *Arthritis Rheum*. 2017;69:2271-82.