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AB0859 CLINICAL COURSES AND PREDICTORS OF LEFT VENTRICULAR SYSTOLIC DYSFUNCTION IN SYSTEMIC SCLEROSIS

Keywords: Cardiovascular disease, Systemic sclerosis, Prognostic factors

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Background: Left ventricular systolic dysfunction (LVSD) is a cardiac involvement, resulting in its being the leading cause of death among patients with systemic sclerosis (SSc). Currently, no predictor of LVSD has been defined by longitudinal data for follow-up among SSc patients.

Objectives: We aimed to define the clinical course and predictors of LVSD among SSc patients.

Methods: We conducted a cohort study among adult SSc patients who were followed up at the Scleroderma Clinic, Khon Kaen University, between 2013 and 2020. Semi-parametric Cox regression analysis with robustness clustering by cohort identification number was used for evaluating the predictors of LVSD.

Results: Among the 55,056 person-years, LVSD was defined in 35 of 419 SSc patients for an incidence of 0.25 per 100 person-years. The majority were female (23 cases) with diffuse cutaneous SSc (dcSSc) (26 cases). The median duration of the disease was 8.5 (IQR 4.9-12.9) years. Every 1-point increase in the modified Rodnan skin score (mRSS) and salt and pepper skin were strong predictors of LVSD, with a respective adjusted hazard ratio (HR) of 1.05 and 3.17. During follow-up, 26 cases (74.3%) had worsening LVSD. The strong predictors of the worsening of LVSD were every 1-point increase in mRSS (HR 1.05), every 1 mg increase in prednisolone treatment (HR 1.05), and every 1 U/L increase in creatine kinase (CK) (HR 1.001). Meanwhile, mycophenolate treatment was a protective factor against the worsening of LVSD in SSc (HR 0.15).

Conclusion: LVSD was frequently found in dcSSc, and most cases worsened during follow-up. The severity of skin thickness increases the risk of LVSD. High mRSS, steroid use, and high CK were predictors of worsening LVSD, while mycophenolate treatment might prevent the progression of LVSD. Steroids should be prescribed with caution to patients with longer disease duration. **REFERENCES:**

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AB0860 DISEASE ACTIVITY IS ASSOCIATED WITH LOW QUADRICEPS MUSCLE THICKNESS IN WOMEN WITH SYSTEMIC SCLEROSIS: PRELIMINARY DATA

Keywords: Ultrasound, Quality of life, Systemic sclerosis

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Background: Systemic sclerosis (SSc) is an autoimmune connective tissue disease characterized by progressive cutaneous and visceral fibrosis, and disseminated vasculopathy [1]. Due to clinical features, SSc patients may present low muscle mass, which impacts negatively on their daily activities and physical function [2,3]. There are several methods to assess muscle mass such as magnetic resonance imaging (MRI), computed tomography (CT) and dual-energy radiological absorptiometry (DXA). However, the high costs of the equipment and the lack of portability make them uncommon tools in clinical practice. In this sense, ultrasonography has been used to evaluate muscle mass in different populations [4].

Objectives: To assess the quadriceps muscle thickness and to verify associations with clinical features, muscle strength and physical performance in SSc women

Methods: In this cross-sectional study, patients with SSc according to the 2013 ACR-EULAR classification criteria were included. Age in years (y), disease duration (y), modified Rodnan skin score (mRSS), the European Scleroderma Trials and Research Group (EUSTAR) SSc activity index (EScSG-AI), and the health assessment questionnaire (HAQ) were assessed. The muscle thickness was assessed by a real-time ultrasound device (Esaote S.p.A MyLab 50 X Vision; SãoPaulo, Brazil). An experienced ultrasound evaluator analyzed the muscle thickness of vastus lateralis (VL, cm), rectus femoris (RF,cm), vastus intermethickness of vastus lateralis (VL, cm), rectus femoris (HF,cm), vastus interme-dius (VI,cm), and vastus medialis (VM,cm). Muscle strength was assessed by handgrip (HGS,kg) and physical performance was assessed by short physical performance battery (SPPB,points). Frequency analysis and Pearson's or Spearman's correlation coefficients were explored as appropriate. The significance was considered when p<0.05.

training Results: We included 45 patients with SSc, 32 (71.1%) with diffuse disease. The median age was 62.00 (54.50-66.50) years and the disease duration was 10.91 (4.88-18.68) years. The median of EScSG-AI was 1.33 (0.33-2.34), the mRSS was 4.00 (2.00-8.00) and the HAQ was 0.62 (0.25-1.06). The mean of muscle thickness were: VL 1.38+0.32 cm, RF 1.06±0.35 cm, VM 1.16±0.47 cm, and VI 1.17±0.33 cm. The mean of HGS was 18.64±9.71kg and the median SPPB was 10.00 (9.00-11.50) points. The disease activity by EScSG-AI was negatively associated with VL (r = -0.410, p = 0.016) and VI (r= -0.394, p = 0.021). In addition, HGS was positively associated with VM (r= 0.435, p = 0.003) and SPPB was positively associated with VL (r= 0.354, p = 0.017).

Conclusion: Low guadriceps muscle thickness is associated with higher disease activity. As expected, our findings suggest that there are positive associations between muscle thickness with strength and physical performance in SSc women. Our findings highlight the importance of aiming for disease activity control because it may indirectly influence the muscle mass of SSc women.

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