is common in SSc patients, ranging from 36% to 65%. However, no study has unveiled the risk of new-onset depression in SSc patients.

Objectives: The present study was conducted to determine whether SSc is an indeed risk factor for the development of new-onset depression. To determine whether the incidence rate (IR) of new-onset depression in SSc patients is higher than in normal subjects, we used data from a nationwide health care database.

Methods: We selected subjects from National Health Insurance System database who were diagnosed with SSc between 2010 and 2016. Subjects who did not get a general health checkup in the previous 2 years, who were diagnosed with depression before their SSc diagnosis, who were less than 20 years old, or who had missing data were excluded. To minimize the possibility of reverse causality, an analysis with a 1-year lag was performed. Kaplan-Meier analysis was conducted to assess the incidence of new-onset depression, and Cox proportional hazards regression was used to calculate adjusted and unadjusted hazard ratio (HR) and 95% CIs. HR for new-onset depression was adjusted for age, sex, smoking, drinking, physical activity, body mass index (BMI), income, diabetes, hypertension, and dyslipidemia.

Results: A total of 1,063 SSc patients (female 82.4 %) and 3,189 age-, sex-matched non-SSc controls with mean (SD) age of 53.1 (10.6) years were included in the analysis. During follow-up periods after 1 year of lag time, the cumulative incidence of new-onset depression was significantly higher in patients with SSc vs controls (38.7 vs. 27.7 IR per 1000 person-years). After adjusting for covariates (age, sex, smoking, drinking, physical activity, BMI, income, diabetes, hypertension, and dyslipidemia), the presence of SSc was associated with 38.1 % increased risk of new-onset depression (HR 1.381; 95% CI, 1.128-1.691), compared with controls. SSc disease itself was determined as an independent risk factor for new-onset depression in subjects with younger age (age < 65 years; HR 1.41; 95% CI 1.122-1.773), female gender (HR 1.415; 95% CI 1.139-1.759), and absence of regular exercise (HR 1.433; 95% CI 1.143-1.795), after adjusting for covariates. Interestingly, the risk of new-onset depression after SSc diagnosis was found to be relatively higher in the low-income group (HR 1.667; 95% CI 1.121-2.479 vs HR 1.303; 95% CI 1.028-1.650).

Conclusion: The present study suggests that the SSc diagnosis is associated with a significantly increased cumulative incidence and risk of new-onset depression. This association is more pronounced in female gender, younger age group, and those who do not exercise regularly. Regular assessment of the occurrence of depressive symptoms should be more emphasized in the patients with SSc after diagnosis.

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POS0128 TEN-YEAR ALL-CAUSE MORTALITY AND RISK FACTORS FOR DEATH IN A LARGE PROSPECTIVE REGISTRY COHORT OF IDIOPATHIC INFLAMMATORY MYOSITIS IN CHINA

Keywords: Myositis, Registries, Lungs

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Background: Mortality of idiopathic inflammatory myositis (IIM) is high, and some studies explored the outcome in IIM patients with different clinical and serologic phenotypes[1]. However, few studies focused on the prognosis of the entire IIM patients, and compared their prognostic factors.

Objectives: To clarify the mortality and independent risk factors related to death of IIM patients in a large multi-center prospective registry cohort in China.

Methods: Patients registered before 31st, December 2021 were included in our analysis. The baseline information at enrollment including demographics, comorbidities, clinical manifestations, immune indices, laboratory data was summarized. Death information was retrieved from our database and supplemented by National death surveillance system in China. Kaplan-Meier Curves as well as cumulative survival at 1, 3, 5 and 10 years was depicted, and Log-rank test was used to compare the mortality between different subgroups. Univariable Cox hazards regression analysis was used to identify potential risk factors for death, and factors with *P* value <0.05 were further analyzed using multivariable Cox regression model.

Results: 4695 IIM cases were finally enrolled in our analysis, including 3012 dermatomyositis (DM; 64.2%), 616 polymyositis (PM; 13.1%), 951 antisynthetase syndrome (ASS; 20.2%), and 116 immune-mediated necrotising myopathy (IMNM; 2.5%). 72.8% were female. The median (interquartile range) follow-up time since disease onset was 33 (15-48) months, and the median interval in months between disease onset and diagnosis.279 cases were complicated with malignancy (6.3%). 550 deaths in total were recorded. The cumulative survival for the entire IIM patients at 1, 3, 5 and 10 years were 92.3%, 88.2%, 85.6%, and 79.7% (Figure 1a). A significant difference (*P*<0.05) in survival between different subgroups confirmed by log-rank test was observed (Figure 1b). Malignancy (126 cases, 22.9%) was the most frequent cause of deaths (Figure 1c), followed by cardiovascular diseases (98 cases, 17.8%), respiratory failure due to ILD (98 cases, 17.8%) and infections (98 cases, 17.8%). 51 myocardial infarctions/ischemic heart diseases caused the most death cases in the cardiovascular diseases group. Notably, most of infective cases were lung infections (82 cases). 5 (0.9%) suicides were also worth the whistle. Multivariable Cox hazard ratio proportional hazards model confirmed malignancy (HR=4.95, 95%CI 4.05-6.07), male (HR=1.58, 95%CI 1.33-1.88), ILD (HR=1.38, 95%CI 1.12-1.71), skin ulceration (HR=1.60, 95%CI 1.22-2.10), anti-Jo-1 antibody (HR=0.54, 95%CI 0.39-0.75), anti-MDA-5 antibody (HR=1.93, 95%CI 1.46-2.56), and anti-Ro 52 antibody (HR=1.29, 95%CI 1.05-1.58) as independent risk factors for mortality after adjusting for age (Figure 1d).

Conclusion: The high mortality rates of IIM patients in China gave us an alert about their situation. As expected, malignancy was the biggest causes of death, again reminding us of importance for screening malignancy in IIM patients. The management of coronary artery diseases was also crucial considering nearly 1/10 deaths were caused by myocardial infarctions/ischemic heart diseases. High suicide rates revealed bad psychological states of IIM. Male patients had a significantly higher risk compared to female patients. ILD was a strong independent risk factor and also a major cause of death in IIM, emphasizing the center place of ILD in IIM management. Intensive immunosuppressive treatment and monitoring might be applicated in these patients. Anti-MDA-5 antibody and anti-Ro52 antibody predicted worse prognosis, while anti-Jo-1 antibody indicated a better one.

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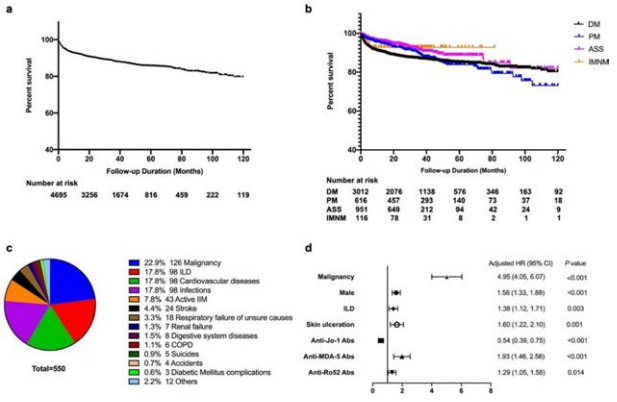

Figure 1.

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POS0129 DIFFERENTIALLY EXPRESSED GENES (DEGS) IN PATIENTS WITH DERMATOMYOSITIS AND JUVENILE DERMATOMYOSITIS

Keywords: Biomarkers, -omics, Myositis

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Background: Dermatomyositis (DM) and Juvenile Dermatomyositis (JDM) are englobed in the spectrum of inflammatory myopathies. These are autoimmune