306. REVISITING ASSOCIATION BETWEEN SYSTEMIC SCLEROSIS AND SARCOIDOSIS: PREVALENCE AND CLINICAL FEATURES

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Background: SSc and sarcoidosis are both uncommon CTDs with reported prevalence of about 3.9 per 100,000 and 20 in 100,000 respectively. Case reports and a recent review suggest an association between the two diseases as well as the possibility that the CTD may trigger granulomatous inflammation. We evaluated the prevalence and clinical features of patients with both these diseases.

Methods: We retrospectively examined the clinical database of all SSc patients (n = 2500) in our centre over the last 12 years.

Results: We identified a sub-cohort of 827 patients. From these, 11 patients (1.33%) were found to have both SSc and sarcoidosis, 8 of which are female. Nine patients had limited cutaneous SSc. The median age was 63.0 ± 11.2 (years ± s.e.m.). The majority (63.7%) were Caucasians. The diagnosis of sarcoidosis preceded SSc in 7 patients and was contemporaneous in one patient. The median interval for diagnosis between the two diseases was 14.0 ± 11.4 years. All patients, but one, were anti-nuclear antibodies (ANA) positive with homogenous pattern identified in 5 patients (45.5%) and centromere...
Methods: MRTF-A knockout (KO) and wild type (WT) control mice convergence for pro-fibrotic mechanisms in SSc. We hypothesized epithelial (EMT), endothelial (EnMT), or smooth muscle cells to transactivated collagen gene transcription through a Sp1/SRF recruit specific genes such as alpha-smooth muscle actin (SMA) and fibrotic vessel formation during tissue repair. MRTF-A signalling is altered in SSc fibroblasts, present under basal conditions. Increased synthesis of pro-fibrotic proteins by SSc fibroblasts is dependent on the MRTF-A.

Results: Following excisional wounding MRTF-A KO mice wounds responses were modelled by collagen gel contraction, CTGF, and type I collagen levels. MRTF-A KO wounds were enlarged at day 7 (WT area 6 mm², KO area 0.176 g, TGF-β treated 0.259 g, P<0.002). Dermal fibroblasts from MRTF-A KO mice showed enhanced basal gel contraction, and impaired response to TGF-β and CCG1423. On soft tissue culture substrates SSc fibroblasts but not control fibroblasts showed suppressed to normal levels by CCG-1423. On soft tissue culture conditions with IL-1β, SSc fibroblasts showed increased (152 pg/ml) compared with controls (130 pg/ml) increased (P=0.002). In contrast to recent review, a majority in this cohort preponderance is more similar to that observed in SSc than sarcoidosis. The data suggest that the observed prevalence for SSc fibrosis is dependent on the MRTF-A.

Conclusion: The data suggest that the observed prevalence for coexisting diseases is higher than expected. Interestingly, the gender preponderance is more similar to that observed in SSc than sarcoidosis. In contrast to recent review, a majority in this cohort had sarcoidosis prior to SSc suggesting that it is less likely that SSc may be associated with granulomatous formation. The pulmonary involvement shared between the two diseases is consistent with the concept of similar aetiology for SSc and sarcoidosis.

Disclosure statement: The authors have declared no conflicts of interest.