Conclusion: The DIAPS might be a valid score system for the assessment of APS-related damage and QoL.

REFERENCES:

Disclosure of Interests: None declared

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Systemic sclerosis, myositis and related syndromes - aetiology, pathogenesis and animal models

AB0089
SILDENAFIL COUNTERACTS THE ACTIVATION OF CXCR3/ CXCL10, -11 AXIS IN SCLERODERMA FIBROBLASTS EXPOSED TO REACTIVE OXYGEN SPECIES
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Background: Oxidative stress associated with vascular damage represents one of the major contributor in the pathogenesis of systemic sclerosis (SSc) [1]. Indeed, different studies demonstrated that excessive free radicals production can contrib-
ute to the activation of fibrotic process in the skin and visceral organs [1]. CXCL10 and CXCL11, together with their receptor CXCR3, are involved in vascular damage and in fibrosis [2]. Furthermore, these chemokines have been proposed as bio-
markers of vascular damage progression and severe SSc prognosis [3]. Emerging evidences highlight the beneficial effects of the phosphodiesterase type 5 (PDE5) inhibitor, sildenafil, to protect different cell types from reactive oxygen species (ROS)-induced DNA damage, in vitro [3]. This effect has been linked to modulation of CXCL10 concentration in different pathological conditions [4,5].

Objectives: Here we set out to investigate the effects of sildenafil, in modulating the CXCR3/CXCL10,-11 inflammatory axis in dermal fibroblasts exposed to oxida-
dive stress, in vitro.

Methods: Human dermal fibroblasts isolated by SSc skin biopsies were treated for 24h with 100µM of hydrogen peroxide (H2O2), in the presence or not of sildenafil. The level of catalase in the experimental group was lower than in the control (9.69 ± 0.67 vs 10.74 ± 0.46, p = 0.001). The level of superoxide dismutase (SOD) in the experimental group was higher compared to the control (33.23 ± 2.40 and 34.03 ± 5.01, p = 0.020).

Conclusion: In vitro study on dermal fibroblasts support clinical studies to deter-
mine the efficacy of sildenafil in the preventing tissue damage and fibrosis in SSc, by reducing the pro-inflammatory activation induced by oxidative stress.

REFERENCES:

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AB0090
THE BIOCHEMICAL BASIS OF ANIMAL MODEL OF SYSTEMIC SCLEROSIS
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Background: Systemic sclerosis (SSc) is a heterogeneous autoimmune pathol-
gen, which detailed pathogenetic mechanisms of initiation and progression still require further investigations. It could be achieved with implementation of reliable experimental modeling techniques.

Objectives: This study was aimed to determine the state of oxidant/antioxidant system, dysregulation of collagen synthesis in laboratory animals and evaluate effectiveness of the considered model of SSC induction.

Methods: Thirty adult Wistar rats (220-240 g) were included in the study. The experimental group consisted of 20 animals, which received 3 subcutaneous injections of 0.5 ml of 5% sodium hypochlorite solution (NaClO) with an active chlorine concentration of 190 g/dm3 for 6 consecutive weeks. The control group consisted of 10 rats injected with isotonic solution according to the previously described scheme.

Results: The level of catalase in the experimental group was lower than in the control 9.69 ± 0.67 / l and 11.1 ± 0.87 / g l respectively (p = 0.002). Protein oxidative modification (POM) products were higher in the experimental group (0.0722 ± 0.023 vs 0.0527 ± 0.023, p = 0.014). Malondialdehyde (MDA) was also higher in the experimental group compared to the control (4.30 ± 0.26 and 3.85 ± 0.23, respectively, p = 0.010). The concentration of oxypoline in the serum of laboratory animals subjected to repeated administration of NaClO was significantly higher compared to the control group (34.03 ± 5.01 and 33.23 ± 2.40, p = 0.020).

Conclusion: As a result of the use of NaClO for the reproduction of SSc in laboratory animals, there is a violation of oxidative-antioxidant homeostasis and increased fibrotic processes. These changes are comparable with those in SSc patients, which makes this modeling technique a promising tool for a detailed investigation of SSc pathogenesis.

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Figure 1. Relative involvement of the organ domains included in the DIAPS according to diagnosis.

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