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FRI0253

OCULAR MANIFESTATIONS IN PATIENTS WITH SYSTEMIC SCLEROSIS

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Background: Systemic sclerosis (SSc) is a connective tissue disease with heterogeneous manifestations. It affects different organs and therefore requires interdisciplinary diagnostic and therapeutic management.

Objectives: The aim of this study is to evaluate the frequency and characteristics of ocular manifestation in patients with systemic sclerosis.

Methods: The study involved 31 patients with SSc. All the study subjects underwent complete ophthalmological examination involving visual acuity assessment, examination of anterior and posterior eye segments, Schirmer I test, diameter and mobility of pupils, as well as eyeball mobility assessment of intraocular pressure and ultrasound assessment of vitreous body. Data regarding age, gender, SSc subtype, disease duration, age at diagnosis, nailfold capillaroscopic pattern, systemic corticosteroid or chloroquine use, blood pressure, ocular symptoms and detailed ophthalmic history were recorded.

Results: 31 patients (3 male, 28 female, mean age 42,7 ± 14,3 years; mean disease duration 10,3±8,1 years) were enrolled in this study. 7 (22,58 %) of them had no ocular symptoms. Among the patients with ocular symptoms, 20 (64,52%) complained of decreased vision, 13 (41,93 %) - of itching, 14 (45,16%) - of burning, 8 (25,81%) - of eye fatigue, 4 (12,90 %) - of ocular pain, 4 (12,90%) - of foreign body sensation, 16 (51,61 %) - of dry eye, 5 (52,03 %) - photophobia, 2 (6,45 %) - of floaters, 10 (32,26 %) - of redness. Hardening and thickening of palpebral skin was noted in 27 (87,10 %) patients. Ophthalmological examination revealed higher incidence of the following abnormalities in the study group: myopic astigmatism - in 20 (32,26 %) eyes, vascular abnormalities within fundus - in 24 (38,71%) eyes, increased intraocular pressure (> 21 mm Hg) - in 13 (20,97%) eyes. Mean IOP values were 18,21 ± 4,2 mm Hg. Eyelid telangiectasias was noted in 9 (29,03 %) patients, chronic blepharitis - in 13 (41,94 %). Lens opacity was found in 16 (51,61 %) patients (27 eyes), mostly in the form of posterior subcapsular cataract (in 20 eyes), nuclear cataract (in 6 eyes) and cortical cataract appearing as focal cystic opacities (in 1 eye). The mean age of patients with cataracts was 49,2 ± 12,3 years (11,4 years older than patients without cataracts). Additionally, 14 of the patients with cataracts were either currently taking or had previously taken systemic corticosteroids. Superficial conjunctival hyperaemia was noted in 20 (64,52 %), and varicose dilatation of subconjunctival and episcleral blood vessels in 9 (29,03 %) and 7 (22,58 %) patients, respectively. In 9 eyes (14,52 %) foci of pigment epithelium were found peripherally on the optic disc. In 6 (9,68 %) eyes - thinning of choroidal capillaries and retinal pigment epithelium, in 8 (12,90 %) - ischemic areas surrounded by microaneurysms and intraretinal extravasation, dilatation of the vessel-free fovea. conjunctival fibrosis - in 8 (25,81 %) patients. In 25 eyes Schirmer I test results were below 10 mm, and in 7 eyes - below 5 mm. Eyelid stiffness was associated with difficulty in lid eversion and a woody texture upon palpation. Comparing patients with and without eyelid stiffness, we found that the mean age and the age at diagnosis were significantly lower in the former group (p < 0.01 and p < 0.05, respectively). The diffuse subtype was more prevalent among pts with eyelid skin changes (p < 0.05).

Conclusion: In patients with SSc numerous abnormalities within the vision of organ may be found. Ocular symptoms are relatively common complications of SSc, and may result in serious, irreversible changes in the organ of vision. Regular ophthalmological examinations are essential among the patients with SSc.

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FRI0254

SERUM IL-17 AND IL-21 AFFECT THE HEMODYNAMICS IN CONNECTIVE TISSUE DISEASE ASSOCIATED-PULMONARY HYPERTENSION

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Background: Pulmonary hypertension associated with connective tissue disease (CTD-PH) has complicated pathology including immune abnormalities,

cardiac and pulmonary lesions. Therefore, it is difficult for rheumatologist to manage CTD-PH. We hesitate to use immunosuppressants in addition to pulmonary vasodilators to treat CTD-PH. Although there is a report that the cytokine such as Interleukin (IL)-6, IL-17 and IL-21 are involved in the development of PH¹⁾, changes in the hemodynamics of these cytokines with treatment are not clear.

Objectives: We investigate serum cytokine profile and clinical appearance in CTD-PH, and clarify the relationship between change in cytokines and hemodynamics before and after treatment.

Methods: 14 cases of CTD-PH (8 cases in Scleroderma; SSc-PH group, 4 cases in Mixed connective tissue disease; MCTD-PH group, 2 cases in Systemic lupus erythematosus; SLE-PH group), 6 cases in Other-PH group, and 2 cases of SSc without PH as controls were included. The following clinical data were collected: age, gender, underlying disease, complication of interstitial lung disease, treatment (immunosuppressant and pulmonary vasodilator). Serum samples in pre- and post-capillary before and after treatment were collected during cardiac catheterization examination. Serum cytokines (MCP-1, IL-6, IL-17 and IL-21) of these samples were measured by ELISA (ABCAM, UK).

Results: Serum MCP-1, IL-6, and IL-21 levels were higher in SSc-PH group than in the other groups. Conversely, serum IL-17 levels tended to be higher in non-SSc group compared to SSc-PH group. Additionally, serum MCP-1 levels in SSc-PH group decreased in post-capillary as compared to pre-capillary. Furthermore, patients with decreased serum IL-17 and IL-21 levels before and after treatment showed improved pulmonary hemodynamics.

Conclusion: SSc-PH had a different cytokine profile compared with non-SSc-PH. We suggested that the serum IL-17 and IL-21 levels effect the hemodynamics in CTD-PH.

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FRI0255

BODY COMPOSITION IN SCLERODERMA PATIENTS IS ASSOCIATED WITH DISEASE ACTIVITY, SERUM LEVELS OF INFLAMMATORY CYTOKINES AND PARAMETERS OF NUTRITION AND LIPID METABOLISM

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Background: Fibrosis of the skin and visceral organs, especially digestive tract, and musculoskeletal involvement in systemic sclerosis (SSc) can have a negative impact on body composition, physical activity and nutritional status.

Objectives: The aim was to assess body composition and physical activity of SSc patients and healthy controls (HC) and the association with selected inflammatory cytokines/chemokines and laboratory markers of nutritional status and lipid metabolism in SSc.

Methods: 59 patients with SSc (50 females; mean age 52.5; disease duration 6.7 years; lcSSc: 34/dcSSc: 25) and 59 age-/sex-matched HC (50 females, mean age 52.5) without rheumatic or tumour diseases were included. SSc patients fulfilled ACR/EULAR 2013 criteria. We assessed body composition (densitometry: iDXA Lunar, bioelectric impedance: BIA-2000-M), physical activity (Human Activity Profile, HAP questionnaire), disease activity (ESSG activity index), serum levels of 27 cytokines/chemokines (commercial multiplex ELISA kit, Bio-Rad Laboratories) and serum levels of chosen parameters of nutrition and lipidogram. Data are presented as mean±SD.

Results: Compared to HC, patients with SSc had significantly lower body mass index (BMI, 27.4±8.3 vs. 22.4±4.3 kg/m², p<0,001), body fat % (BF%, iDXA: 38.0±7.6 vs. 32.6±8.2 kg, p<0,001; BIA: 31.3±7.6 vs. 24.3±7.9 kg, p<0,001) and visceral fat weight (VF, 1.0±0.8 vs. 0.5±0.5 kg, p=0,001), and also significantly decreased lean body mass (LBM, iDXA: 51.9±8.4 vs. 47.8±7.0 kg, p=0,005; BIA: 45.4±7.3 vs. 40.9±6.8 kg, p=0,005), and bone mineral density (BMD, 1.2±0.1 vs. 1.0±0.1 g/cm², p<0,001). Compared to HC, patients with SSc had increased extracellular mass/body cell mass (ECM/BCM, 1.03±0.1 vs. 1.28±0.4, p<0,001) ratio, reflecting deteriorated nutritional status and worse muscle predispositions for physical activity. Increased ECM/BCM in SSc was associated with higher disease activity (ESSG), increased skin score (mRSS) and inflammation (CRP, ESR), and with worse quality of life (HAQ, SHAQ), fatigue (FSS), and decreased physical activity (HAP). ESSG negatively correlated with BF%. HAP positively correlated with BMD. Serum levels of several inflammatory cytokines/chemokines (specifically