Results: When compared to sham,control and experimental groups was observed to have reduced connective tissue fibrosis in dermis area, according to Masson Trichrome results. EGCG group showed a significant reduction in fibrosis at the dermal surface area with respect to hematoxylin measurements. MMP-1, MMP-8, p-SMAD 2/3 protein levels and TGF- β mRNA expression were slightly decreased in EGCG Group compared with the other tested groups ($p<0.05$). Otherwise, MMP-13 wasn't change between groups.
Conclusions: This study contributes to the potential use of EGCG as a treatment for fibrosis in SSc patients. Also, MMP-1&MMP-8 may play an important role in the etiology of SSc.
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AB0169 EVALUATION OF FREQUENCY AND TYPE OF PHYSICAL THERAPY IN MORE THAN 3400 PATIENTS WITH SYSTEMIC SCLEROSIS

D. Belz[1], P. Moinzadeh[1], N. Blank[2], E. Siegert[3], J. Henes[4], M. Worm[5], C. Sunderkoetter[6], M. Schmalzing[7], A. Kreuter[8], C. Gunther[9], L. Susok[10], G. Zeidler[11], I. Koetter[12], U. Mueller-Ladner[13], T. Krieg[1], A. Juche[14], T. Schmeiser[15], G. Riemekasten[16], E. Aberer[17], N. Gaebelein-Wissing[18], J.H.W. Distler[19], M. Sárdy[20], C. Pfeiffer[21], K. Kuhr[22], N. Hunzelmann[1].
[1]Dermatology, University Hospital Cologne, Cologne; [2]Rheumatology, University Hospital Heidelberg, Heidelberg; [3]Rheumatology, Charité Universitätsmedizin Berlin, Berlin; [4]Rheumatology, University Hospital Tuebingen, Tuebingen; [5]Dermatology, Charité Universitätsmedizin Berlin, Berlin; [6]Dermatology, University Hospital Muenster, Muenster; [7]Rheumatology, University Hospital Wuerzburg, Wuerzburg; [8]Dermatology, HELIOS St. Elisabeth Klinik Oberhausen, Oberhausen; [9]Dermatology, University Hospital Carl Gustav Carus, Dresden; [10]Dermatology, St. Josef Hospital Bochum, Bochum; [11]Rheumatology, Johanniter-Krankenhaus im Fläming Treuenbrietzen, Treuenbrietzen; [12]Rheumatology, Asklepios Klinik Altona, Hamburg; [13]Rheumatology, Justus Liebig University Giessen, Kerckhoff Clinic, Bad Nauheim; [14]Immanuel Krankenhaus Berlin-Buch, Berlin; [15]Rheumatology, Krankenhaus St. Josef, Wuppertal; [16]Rheumatology, University Medical Center-UKSH, Luebeck, Germany; [17]Dermatology, Medical University of Graz, Graz, Austria; [18]Dermatology, HELIOS University Hospital Wuppertal, Wuppertal; [19]Rheumatology, University Hospital Erlangen, Erlangen; [20]Dermatology, Ludwig Maximilians University Hospital, Munich; [21]Dermatology, University Medical Center Ulm, Ulm; [22]IMSIE, University of Cologne, Cologne, Germany

Background: Systemic sclerosis (SSc) is a chronic fibrosing autoimmune disease which leads to severe musculoskeletal dysfunction, disability and contractures. Little is known on the type and extent of physical therapy (PT) prescribed to SSc patients in daily practice.
Objectives: To determine the type and frequency of PT received by SSc patients.
Methods: The data of 3430 clinically well defined SSc patients registered in the database of the German Network for Systemic Sclerosis were analyzed using SPSS.
Results: 48,5% (1662/3430) of the patients were treated with PT. The most frequently used form of PT was lymphatic drainage (23,6%/876), followed by physical exercise therapy (22%/817) and paraffin wax bath (10,5%/389). About half of the patients (46,9%) received two or three different forms of PT simultaneously. The prescription of PT did not correlate with the SSc subtype, as 49,5% (503/1016) of dcSSc patients, 50,3% (850/1689) of lcSSc patients and 45,7% (143/313) of SSc-Overlap patients received PT. PT was significantly more often prescribed to patients with pulmonary fibrosis in 51,1% (617/1208), synovitis in 61,6% (299/485) and CK elevation in 61,1% (174/285) (p=0,001–0,029). PT did not correlate with the extent of skin fibrosis as measured by mRSS. Interestingly, patients with joint contractures (45,5%) (388/853) or tendon friction rubs (40,6%) (114/281) received significantly less often PT (p=0,006/ 0,045). Comparing the prescription of PT during the initial period 2003–2008 (49,1%; 1937/3942) with the follow up period 2009–2013 (45,3%; 2217/4899), a significant decrease of PT prescription was observed ($p<0,001$). Patterns of PT prescription differed significantly between medical subspecialties ($p<0,005$) i.e. rheumatologists, dermatologists.
Conclusions: Although SSc is characterized by considerable disability and restriction of motion, less than 50% of patients received PT. The significant decrease in PT prescription during recent years may reflect lack of knowledge how to prescribe PT and more restrictive insurance regulations.
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AB0170 DIMINISHED PERIPHERAL T-CELL ACTIVATION ALONG WITH MARKED TH17 CIRCULATING PROFILE IN SSC

E. Krasimirova[1], D. Kalinova[2], T. Velikova[1], E. Ivanova-Todorova[1], K. Tumangelova-Yuzeir[1], R. Rashkov[2], D. Kyurkchiev[1]. *[1]Laboratory of Clinical immunology; [2]Clinic of Rheumatology, University Hospital St. Ivan Rilski, Medical University of Sofia, Sofia, Bulgaria*

Background: Systemic sclerosis (SSc) is a rare, debilitating connective tissue disease characterized by immunological alterations, vasculopathy and progressive skin and multiorgan fibrosis. The autoimmune dysregulation in SSc comprises lymphocyte activation that leads to autoantibody production, abnormal production of cytokines and chemokines, and impairment of the innate immunity. Recent research has shown that the T cell activation and especially T helper cells play an important role in the pathogenesis of SSc. Amongst them are the proinflammatory Th17 cells.
Objectives: To investigate T-cell activation, the percentage of Th17 cells and the circulating cytokine profile in SSc.
Methods: We enrolled a total of 24 SSc patients and 16 healthy controls in the study and divided the patients as having diffuse cutaneous SSc (dcSSc, n=13) or limited cutaneous SSc (lcSSc, n=11). Peripheral venous blood samples were collected from all subjects. We examined the percentage of activated T cells (unstimulated and upon stimulation with PHA-M) and of Th17 cells by flow cytometry in both patients and controls. We used ELISA to quantitate the serum levels of human IL-6, TGF-β1, and IL-17A.
Results: We identified a decreased percentage of activated T cells (CD3+CD69+) in PHA-stimulated samples from SSc patients in comparison with healthy controls, $p<0.001$. However, we did not establish a correlation between the down-regulated CD3+CD69+ cells and the SSc phenotype.
With regard to Th17 cells, our patients demonstrated increased percentage as opposed to controls, p=0.031. We detected up-regulated Th17 cells within the lcSSc subset against controls, p=0.025. However, no difference was found between dcSSc and lcSSc patients. Regarding the peripheral cytokine profile, we detected raised levels of IL-6, $p<0.001$, TGF-β1, p=0.02, and IL-17A, $p<0.001$ in patients when compared to controls. Furthermore, we found increased circulating TGF-β, IL-6 and IL-17A in the lcSSc subset versus healthy individuals, as it follows TGF-β1, p=0.031, IL-6, $p<0.001$, and IL-17A, $p<0.001$. Furthermore, circulating IL-17A was higher in lcSSc as opposed to dcSSc subset, p=0.008. Within the dcSSc phenotype, we detected raised levels of IL-17A and IL-6 versus controls: IL-17A, $p<0.001$, IL-6, $p<0.001$.
Conclusions: Our results demonstrate down-regulated T-cell activation upon PHA-stimulation along with pronounced peripheral Th17 profile, and related cytokines in SSc patients, suggesting their implication in the pathogenesis of SSc.
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AB0171 ANTI-CARBAMYLATED PROTEIN ANTIBODIES IN PATIENTS WITH SYSTEMIC SCLEROSIS: AN INTRIGUING ASSOCIATION WITH SKIN INVOLVEMENT

E. Favoino[1], M. Prete[1], S. Vettori[2], A. Corrado[3], F.P. Cantatore[3], G. Valentini[2], F. Perosa[1]. *[1]Department of Biomedical Sciences and Human Oncology, Systemic Rheumatic and Autoimmune Disease Unit, University of Bari Medical School, Bari; [2]Department of Clinical and Experimental Internal Medicine, Rheumatology Section, Second University of Naples, Naples; [3]Department of Medical and Surgery Sciences, Rheumatology Unit, University of Foggia, Foggia, Italy*

Background: Systemic sclerosis (SSc), one of the most complex connective tissue disease, is characterized by three pathogenic events namely, vascular damage, autoimmunity and fibroblast activation, leading to a widespread fibrosis of skin and internal organs (1,2). Previous studies showed that 1) carbamylation mainly affects structural proteins undergoing to a low turn-over rate, namely dermal skin and tendons-associated proteins; and that 2) carbamylated proteins accumulate in skin in an age-dependent manner, contributing to tissue alteration (3).
Objectives: As dermis is a disease target and anti-carbamylated protein antibodies (anti-CarP Ab) have been reported in patients with SSc (4), we sought to evaluate any relationship between anti-CarP Ab and clinical parameters reflecting skin involvement in SSc.
Methods: Serum samples and clinical data from 123 patients with SSc were collected. Anti-CarP Ab were detected by indirect ELISA, using carbamylated bovine serum albumin as the antigen. Serum Anti-CarP Ab levels were also measured in 41 healthy aged-matched individuals. Clinical data were retrieved as previously reported (5).
Results: The mean serum levels of anti-CarP Ab did not statistically differ