and depression. During the follow-up period, there was a significant deterioration or stagnation of the achieved positive results in the IG. However, improved functional ability during the intervention period persisted in the IG in the follow-up period as well. Only numerical improvements in the IG during the intervention compared to the numerical deterioration in CG, that did not reach statistical significance, were observed in some subjectively assessed domains of QoL (SF-36) and fatigue (FIS – in physical dimension).

Conclusions Our specialized ADL training led to a significant improvement in the observed parameters that was clinically significant in a substantial proportion of patients, and prevention of the expected worsening of muscle weakness and quality of life.

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Disclosure of Interest None declared.

P045

EFFECT OF SPECIALIZED 6-MONTH PHYSICAL-OCCUPATIONAL INTERVENTION WITH SUBSEQUENT 6-MONTH FOLLOW-UP PERIOD IN PATIENTS WITH SCLERODERMA – PRELIMINARY DATA

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Introduction Systemic sclerosis (SSc) is accompanied by stiffness and contraction of tissue, predominantly of the skin, caused by fibrosis and resulting in reduced quality of life. The aim of our study was to determine the effect of specialized physical-occupational intervention (POI) on hand/face function and strength, and quality of life of SSc patients.

Objectives The study included a total of 55 patients who fulfilled the EULAR/ACR criteria for SSc (2013) and had skin involvement leading to hand-function impairment and mouth handicap. 25 patients were recruited into the intervention group (IG) and 30 patients into the control group (CG). Both groups received educational material for home exercise, but only the IG underwent a 6 month intervention with a subsequent 6 month follow-up period.

Methods Patients were assessed by a physician and a physiotherapist blinded to intervention at months 0, 3, 6, and 12, and parameters evaluating hand/face and quality of life were recorded. Patients also filled out PRO (patient reported outcomes) questionnaires and provided blood for routine laboratory analysis and bio-banking. Data analysis was done between groups and within the group.

Results Compared to the observed statistically significant deterioration in the CG, we found a statistically significant improvement in the IG in objectively assessed function and strength of hand, distance between incisors and lips and functional ability (SHAQ). Only numerical improvements in the IG during the intervention compared to numerical deterioration in CG that did not reach statistical significance were observed

in subjectively assessed hand function and mouth handicap, functional ability (HAQ) and in some domains of QoL (SF-36) and fatigue (FIS—in cognitive function). During the follow-up period, there was a significant deterioration or stagnation of the achieved positive results in the IG.

Conclusions Our specialized POI intervention led to a significant improvement in the observed parameters that was clinically significant in a substantial proportion of patients, and prevention of the expected worsening of hand/face function and strength and quality of life.

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P046

NECROSTATIN-1 AMELIORATES NEUTROPHILIC ASTHMA BY INHIBITING NEUTROPHIL RELEASE NETS

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Career situation of first and presenting author Student for a master or a PhD.

Introduction Neutrophilic asthma is Corticosteroid-resistant and increases the burden of global health care. Multiple studies have indicated that there are a large amount of neutrophil extracellular traps (NETs) in the airways of neutrophil asthmatics.¹ Although NETs are able to entrap and kill pathogens, extensive accumulation of NETs which aggravate the condition of asthmatics and promote the progression of the disease.² However to our knowledge, the mechanisms by which NETs influence the progression of asthma have not been clearly elucidated and neutrophilic asthma requires novel effective therapeutic strategies.

Objectives We sought to explore the underlying mechanisms of NETs aggravate the severity of asthma, and to investigate a new strategy of effective treatment against corticosteroid-insensitive neutrophilic asthma.

Methods Mouse models of neutrophil-dominated asthma and phorbol ester (PMA) aggravated neutrophil asthma were used in this study to clarify the role of NETs in the pathogenesis of neutrophil asthma. Neutrophil release NETs was detected in bronchoalveolar lavage fluid (BALF) of neutrophil-dominated asthma. Finally a small molecule Necrostatin-1 (Nec-1) which has been shown to inhibit neutrophil release NETs was tested for its therapeutic effects against neutrophilic airway inflammation.

Results NETs could induce human epithelium human bronchial epithelial cell death and detachment *in vitro* study. NETs significantly increased in neutrophil asthma model and PMA aggravated neutrophil asthma. *In vivo* studies, Nec-1 could relieve airway hyperresponse, also reduced total protein, myeloperoxidase activity and inflammatory cytokines. Histological examination of the lungs also showed that Nec-1 markedly reduced the inflammation. We further explored that Nec-1 could induce human neutrophils and mice BALF neutrophils apoptosis. BALF and lung tissue immunofluorescence showed neutrophils increased expression of cleaved-caspase.³

Conclusions NETs could damage airway epithelium and trigger inflammatory responses. Nec-1 inhibit neutrophil release NETs ameliorates neutrophil airway inflammation. May be