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group of patients with and without NPS were 5.44±2.03, 3.45±1.82; respectively (P<0.001). Pain was most frequently seen in wrist-hand (50.6%) and ankle-foot (43.4%) regions; albeit, NPS rates were highest in face (94.4%), lower leg (87.5%) and gluteal (78.6%) regions. SF 36 scores were lower in patients with NPS than the patients without NPS but the difference has not reached to a statistically significant level (P>0.05). The most associated factors with NPS were Medsger Disease Severity Score for muscle and drug consumption of the patient.

Conclusions: According to our results, high frequency of NPS is seen in SSc patients, and NPS is associated with low QoL. The highest rates of NPS presence were seen in face, gluteal and lower leg regions of the body. Differential diagnosis of NPS is important to consider right treatment options and accurate management of pain in all rheumatologic diseases including SSc.

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### SAT0356 VIDEOFLUOROSCOPY SWALLOW STUDY IN PATIENTS WITH SYSTEMIC SCLEROSIS. CORRELATION WITH CLINICAL **PATTERNS**

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Background: Systemic Sclerosis (SSc) is a chronic autoimmune disease characterized by proliferative vascular lesions and progressive fibrosis of skin and internal organs, including the gastrointestinal tract. Gastrointestinal involvement is a very frequent complication, reported in up to 90% of SSc patients in both limited (ISSc) and diffuse (dSSc) cutaneous forms, and it is one of the earliest events

Objectives: To evaluate the correlation between radiological items analyzed by videofluoroscopy swallow study and clinical patterns of patients SSc.

Methods: 55 patients (M/F: 6/49; median age 56y; median disease 6y, ISSc /dSSc:36/19; anti-ScI70+:21/55, ACA+:18/55, only ANA+:16/55), with a diagnosis of SSc and a history of dysphagia underwent a dynamic and morphological study of the oral, pharyngeal and esophageal phases of swallowing with videofluoroscopy. The oral and pharyngeal esophageal phases were performed in the upright position, while the esophageal phase was performed in the proneoblique position, after administration of contrast material either in bolus form or diluted. Data were analyzed by radiologist with experience in videofluoroscopy for the evaluation of 17 videofluoroscopy items, of which, 4 concerning the oral, 4 the pharyngeal and 9 the esophageal phase, respectively. Results were expressed in a binary system. Then the main relevant videofluoroscopy findings were correlated with the principal scleroderma pattern of disease: ISSc vs dSSc; disease duration (more than 2 years) and subset of autoantibodies.

Results: Radiological study of swallowing disorders showed for oral phase: inadequate velar elevation in 4%, leakage in 15%, drooling in none (0%) and stasis of bolus in mouth in 4% of the patients. As for pharyngeal phase: stasis of bolus on pharyngeal in 49%, penetration in the laryngeal aditus in 53%, postswallowing aspiration in 22%, abnormal upper esophageal sphincter behavior in 13% of the cases. Concerning esophageal phase: inadequate primary peristalsis in 53%, abnormal secondary peristalsis in 29%, non-peristaltic contractions in 40%, defects of clearance in 69%, abnormal lower esophageal sphincter behavior in 76%, hiatal hernia in 80%, esophageal reflux in 56%, esophagitis in 82% of the patients, nobody presented esophageal luminal stenosis. When we analyzed the swallowing disorders in different conditions we found that these are prevalent in patients with more than 2 year of disease, although may be found also early. Conversely, we have not found a significant prevalence between the ISSc or the dSSc, or a particular correlation with different patterns of autoantibodies.

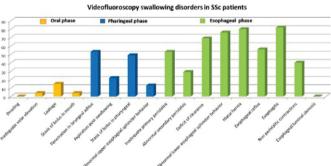


Figure 1

Conclusions: Our study demonstrated relevant abnormalities in swallowing functions in high number of patients with SSc. Pharyngeal and esophageal phases are the most affected, also early. Swallowing disorders increase with disease progression and involve similarly the limited or the diffuse SSc. An early and detailed diagnosis, supported by a semi-quantitative analysis with the use of videofluoroscopy scores, may be useful to guide the appropriate therapeutic approach, either rehabilitative or pharmacological, and finally, to improve the

patient's quality of life. Extensive studies are necessary to confirm and transfer our data into clinical practice.

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### SAT0357 FEATURES ASSOCIATED WITH MODERATE TO HIGH RISK OF MALNUTRITION IN A COHORT OF PATIENTS WITH SYSTEMIC **SCLEROSIS**

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Background: It is estimated that about 28% of Systemic Sclerosis (SS) patients have moderate to high risk of malnutrition.

Objectives: to evaluate differences between SS patients with moderate to high risk of malnutrition and those with low risk.

Methods: cross-sectional, observational, multicentric study. We included patients with SS according to ACR-EULAR 2013 classification criteria. Patients were classified in groups depending on whether they were in low or moderate-high risk of malnutrition, according to the screening method for detection of adult malnutrition (MUST). Were evaluated: disease duration, disease subtype (limited or diffuse), presence of microstomia, xerostomia, active or past digital ulcers, amputations, arthritis, Rodnan Score, gastroesophageal and bowel involvement, anxiety and depression, and hands functionality by Duruöz Index. Continuous variables were described as median (IQR) or mean (SD) and percentages for categorical variables. Mann Whitney or t-test was used for continuous variables, and Fisher exact test or chi squared for categorical variables. A p<0.05 was considered significant. A multivariate analysis was made taking MUST as a dependent variable

Results: 116 patients were included. Thirty percent were at moderate to high risk of malnutrition. These patients experienced significantly higher frequency of diffuse SS (49% vs 21%, p=0,003), bowel involvement (49% vs 27%. p=0,02), gastroesophageal involvement (74% vs 48%, p=0,009), higher cutaneous involvement (median 12 vs 6, p=<0.01), microstomia (40% vs 15%, p=0.003), worst hand functionality (median: 11 vs 3, p=0.02), and moderate-severe depression (37% vs 16%, p=0,012). Also, men experienced a higher moderatehigh risk of malnutrition (20% vs 6%, p=0,02). In the multivariate analysis, the male sex (OR 4.55, 95% CI 1.11-20, p=0.03), the Rodnan score >9 (OR 3.13, 95% CI, 95% CI, p=0,01), and gastroesophageal involvement (OR 2.87, 95% CI 1.07-7.73, p=0.03), were independently and statistically significant.

Conclusions: These results highlight the importance of assessing the nutritional status of our SS patients.

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# SAT0358

## DECREASED BODY FAT, LEAN BODY MASS AND BONE MINERAL DENSITY IN PATIENTS WITH SYSTEMIC SCLEROSIS ARE ASSOCIATED WITH DISEASE ACTIVITY AND PHYSICAL **ACTIVITY**

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Background: Systemic sclerosis (SSc) is characterized by fibrosis of the skin and visceral organs, especially digestive tract, and musculoskeletal involvement, which limit mobility/self-sufficiency of patients, and can have a negative impact on body composition.

Objectives: To assess body composition and physical activity of SSc patients and healthy controls (HC).

Methods: 59 patients with SSc (50 females, 9 males; mean age 52.1; disease duration 6.7 years; limited cutaneous (IcSSc,36)/diffuse cutaneous (dcSSc,23)) and 36 age-/sex-matched HC (30 females, 6 males, mean age 51.4) without rheumatic/tumor diseases or manifest cardiovascular event were included. SSc patients fulfilled EULAR/ACR 2013 criteria. Anthropometric parameters and body composition were assessed (by densitometry-iDXA Lunar, and by bioelectric impedance-BIA-2000-M), and physical activity was evaluated using Human Activity Profile (HAP) questionnaire. Routine biochemistry analysis was performed after 8 hours of fasting. Disease activity was evaluated by EUSTAR SSc activity score. Data are presented as mean±SD.

Results: Compared to HC, patients with SSc had significantly lower body-mass index (BMI:  $26.4\pm3.3$  vs.  $22.4\pm4.3$  kg/m<sup>2</sup>, p<0.0001) and body fat % assessed by both iDXA (BF%: 37.2±6.6 vs. 32.6±8.2%, p=0.0014) and BIA (BF%: 31.1±6.4 vs.