number of patients, course-length, and repeated courses. Similar to the observation by Ionescu *et al*(2), the pre-training inter-observer ICC value was very high(0.867), and it increased to 0.905 after the training. Presence of an increase in some areas, and reduction in some others in individual analysis of areas after the training may suggests the need for repeated training. Our limitations were low number of participants and patients. We obtained very good inter-rater ICC values in the mRSS training course given to rheumatology fellows; however we may benefit from new studies for optimization of these conclusions by increasing the numbers of trainees, patients, and the lenght of courses.

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AB0645 CANNABINOIDS IN THE TREATMENT OF PAIN RELATED TO SYSTEMIC SCLEROSIS SKIN ULCERS: OUR EXPERIENCE

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Background: Skin ulcers (SU) represent one of the most frequent complications of Systemic Sclerosis (SSc), characterized by severe chronic pain and frequent complications. Pain related to SSc SU(SSU) remains yet an area of significant unmet need. Moreover, pain control is fundamental for the wound care procedures in SSc patients (pt), increasing treatment adherence and compliance to skin ulcers dressing changes. The pain relief provided by standard therapy (i.e. NSAIDs, tramadol) is often inadequate or dose limited by side effects. Opioids currently are the mainstay of SSU pain treatment but burdened by side effect profile and/or ineffective. Thus, novel analgesic strategies need to be investigated. Cannabidiol (CBD), one of many constituents of the Cannabis sativa, has received renewed interest in the treatment of numerous pathological conditions.

Objectives: Evaluate our experience to define the efficacy of CBD preparation in patients with SSU.

Methods: 25 SSc pt (F/M 22/3, mean age 52.3 ± 12.9-SD-years), referred to our Scleroderma Unit during 2018, were consecutively included. In all pt the disease was complicated by long-standing, painful SU resistant to opioids. Pain was classified as severe, according to WHO guidelines in all subjects. 25/25 pt carried out systemic (calcium-channel blockers, prostanoids and/or anti-ET receptors) and local (debridement and dressing) therapies. The CBD (10% oral administration oil) was used daily for the treatment of SSU-related pain. We performed both an oral (five drops bid) as local treatment (two drops in the site of SSU) during surgical debridement of SSU for a period of 5.9 ± 3.2 SD months. Patients have been provided with a diary to record the following symptoms daily: self-evaluation of pain at the same time in the evening, using a visual analog scale (VAS), use of other analgesics, eventual side effects. Health Assessment Questionnaire-Disability Index (HAQ-DI) was administrated baseline and at the end of treatment. Safety of CBD was evaluated by patient's records of side effects, while vital signs and laboratory parameter variations were monitored at each weekly medication.

Results: The local treatment with CBD produced a significant reduction of SSU-related pain. After 1 month of therapy, pain VAS decreased from 94.8 ± 8.72 SD to 54.7 ± 9.4 SD (P<0.0001), total hours of sleep increased from 2.56 ±1.28 SD to 5.67 ± 0.85 SD (P <0.000). Additional analgesic therapy was necessary in 12/25 (48%). After 2 months, further clinical improvement was observed: the pain VAS reduced to 40.9 ± 12.9 SD, the mean total hours of sleep per night was 6.10 ± 0.85 SD and the HAQ-DI decreased from 1.1 ± 0.67 SD (baseline) to 0.46 ± 0.46 SD at the last patients' evaluation, when complete healing of SSU and pain relief were obtained and CBD was discontinued. 20/25 (80%) pt registered a better compliance to the local wound management.
No reported significant side effects with CBD oil.

Conclusion: Our study suggests that the use of CBD as a local therapy is effective and safe in maintaining analgesia in patients with SSU; not secondarily it could be essential for an adequate healing of a local wound with consequent improvement of SSc patients' quality of life and compliance on local SSU management. Further larger-scale studies will be needed to finally demonstrate CBD efficacy and to monitor long-term effects.

AB0646 HEALTHCARE UTILIZATION AMONG INCIDENT CASES OF SYSTEMIC SCLEROSIS: RESULTS FROM A POPULATION-BASED COHORT (1988–2016)

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Background: Systemic sclerosis (SSc) is an autoimmune disorder associated with multi-organ dysfunction including but not limited to vascular, cardiac and pulmonary involvement. Few studies have estimated the healthcare resource usage of patients with SSc.

Objectives: To compare healthcare utilization among incident cases of SSc vs age- and sex-matched comparators.

Methods: This study utilized a retrospective, population-based cohort of physician-diagnosed patients with SSc in a geographically well-defined area from Jan 1, 1988 to Dec 31, 2016. A 2:1 cohort of age- and sex-matched non-SSc subjects from the same population base was randomly selected for comparison. Inpatient and outpatient utilization data were obtained from the Rochester Epidemiology Project beginning 12 months prior to the SSc incidence/index date. Patients were followed until death, migration from Olmsted County, or December 31, 2017. A maximum of 5 years following the incidence/index date was used for analysis and the follow-up of each matched triple was further truncated at the shortest length of follow-up for any member, to ensure similar periods of observation for SSc cases and non-SSc comparators. Services were summarized as visit-days (number of days at least one service in the category was billed) to avoid overestimation of services provided. Utilization was compared between SSc and non-SSc cohorts using negative binomial models.

Results: The cohort included 69 incident SSc cases and 138 non-SSc comparators (mean age of 57 ± 16 years at diagnosis/index, 90% female for both cohorts; 87% [SSc] and 95% [non-SSc] Caucasian). Patients with SSc had the highest utilization of outpatient physician, laboratory and combined radiology visit-days during the year of the SSc diagnosis compared with the year prior to diagnosis or years 1-4 after diagnosis of SSc (Table). Patients with SSc had higher utilization of outpatient physician, laboratory and combined radiology visit-days annually for the year prior to diagnosis of SSc and for each of the first 5 years after diagnosis of Ssc compared to patients without SSc. Rate ratios comparing utilization in patients with and without SSc ranged from 1.8 to 3.0 for all comparisons.

Conclusion: A higher utilization of outpatient physician, laboratory and radiology visits was observed among patients with SSc compared to non-SSc subjects throughout 5 years of disease duration, indicating high and continued care needs in this patient population.

Table. Comparison of outpatient visits, labs and imaging visit-days in patients with and without incident SSc

Services	Time Interval (years)	Number of patients, SSc/Non-SSc	SSc Median visit-days (IQR)	Non-SSc Median visit-days (IQR)	Rate Ratio (95% CI)
Outpatient visits	-1-0	69/138	4 (1–9)	2 (0–6)	1.8 (1.2–2.7)
	0-1	69/138	7 (4–12)	3 (0–5)	2.4 (1.7–3.3)
	1-2	66/132	4 (2–11)	2 (0–4)	2.0 (1.4–2.9)
	2-3	54/108	4 (2–10)	3 (0-5)	1.9 (1.4–2.7)
	3-4	48/96	4 (2–10)	3 (1–5)	1.9 (1.3–2.6)
	4-5	43/86	5 (2–12)	3 (0–6)	2.1 (1.4–3.0)
Labs	-1-0	69/138	3 (0-8)	1 (0-3)	2.1 (1.4–3.3)
	0-1	69/138	4 (2-10)	2 (0–3)	3.0 (2.0–4.6)
	1-2	66/132	5 (1-8)	1 (0–3)	2.0 (1.3–3.2)
	2-3	54/108	3 (1-9)	1 (0–4)	2.6 (1.7–4.3)
	3-4	48/96	3 (1-10)	1 (0–3)	2.7 (1.7–4.1)
	4-5	43/86	3 (1-12)	1 (0–3)	2.9 (1.7–4.7)
Radiology	-1-0	69/138	2 (0–5)	0 (0–2)	2.1 (1.6–4.2)
	0-1	69/138	3 (1–6)	1 (0–2)	2.6 (1.8–3.9)
	1-2	66/132	2 (1–6)	0 (0–2)	1.9 (1.8–3.1)
	2-3	54/108	2 (1–4)	1 (0–2)	2.1 (1.3–3.1)
	3-4	48/96	2 (1–4)	1 (0–2)	2.0 (1.3–3.1)
	4-5	43/86	2 (1–7)	1 (0–2)	2.6 (1.6–4.2)

IQR: interquartile range; CI: confidence interval