had radiographic damage. The median of IFX treatment duration was 9 years. There were no significant differences between the GS, CD and GLOESS scores at IFX peak time and trough time. US-joint count, GS, CD and GLOESS scores did not significantly differ between peak time and trough time. Patients with long-lasting RA treated with IFX had relatively stable US-detected synovitis and slightly lower clinical scores at 4 weeks after IFX administration as compared to baseline. The DAS28CRP, 28 and 44 swollen joint counts did not correlate with trough serum IFX concentrations. US scores (GS and GLOESS) significantly correlate with trough serum IFX concentrations (Spearman correlation coefficient, $r = -0.55$, $p = 0.01$, $n = 20$). Patients with low trough IFX levels, especially $\leq 1 \mu\text{g/ml}$, had higher US joint count as well as US scores ($p < 0.01$).

REFERENCE:

- [1] US-scored synovitis is not significantly influenced by pharmacokinetics of IFX in RA patients. US examination can be conducted independently of time of IFX administration i.e. before or after IFX administration in clinical trials. Although there was no correlation with clinical scores, low trough IFX concentration correlated with the degree of US-detected synovitis.

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AB1173

CORRELATION BETWEEN TRABECULAR BONE SCORE (TBS) AND NAILFOLD VIDEOCAPILLAROSCOPY IN SYSTEMIC SCLEROSIS PATIENTS

A. Casabella¹, B. Ruaro¹, S. Paolino¹, C. Pizzorni¹, E. Alessandri¹, C. Serio², D. Fasciolo¹, G. Botticella², L. Molfetta², P. Odetti², M. Cutolo¹.

¹Department of Internal Medicine, Di.M.I. Polyclinic Hospital, San Martino, University of Genoa, Research Laboratory and Academic Division of Clinical Rheumatology; ²Department of Internal Medicine, Di.M.I. Polyclinic Hospital, San Martino, University of Genoa, Osteoporosis, Bone and Joint Disease Research Center, CROPO, Genova, Italy

Background: Systemic sclerosis (SSc) is associated with an increased risk of altered bone and fractures as a result of multiple factors, including treatment-related side effects, low vitamin D serum concentrations and reduced physical activity.¹ Trabecular Bone Score (TBS) is an index extracted from dual-energy X-ray absorptiometry (DXA) analysis, that provides an indirect measurement of axial bone microarchitecture and bone quality.²

Objectives: The aim of this study was to evaluate possible correlation between bone quality, by TBS, and different levels of microvascular damage, as evaluated by nailfold videocapillaroscopy (NVC) patterns³ in SSc patients and to compare the results regarding bone quality with RA patients and healthy subjects (CNT).

Methods: Eighty-eight SSc patients, 98 rheumatoid arthritis (RA) patients and 60 CNT were studied. Bone Mineral Density (BMD, g/cm^2) of the lumbar spine (L1-L4) was analysed by dual-energy X-ray absorptiometry (DXA) scan. Lumbar spine bone quality was derived from each spine DXA examination using the TBS analysis. NVC patterns were analysed as previous reported.³ All patients were subjected to 25 hydroxyvitamin D (25(OH)D ng/ml) serum dosage.

Results: TBS values were found statistically higher in SSc with a "Early" NVC pattern, compared to the "Active" or "Late" pattern (1.182 ± 0.1 , 1.101 ± 0.8 , 1.074 ± 0.1 respectively, $p < 0.001$). No statistical significant difference was observed in the three groups about DXA values ($p = 0.13$, for all areas). A total of 56/84 SSc patients (66%) as well as in 78/98 RA patients (80%) showed bone loss at DXA and BMD was found significantly lower than in the CNT ($p < 0.001$). Similarly, lumbar spine TBS was found significantly lower in SSc and RA patients than in CNT ($p < 0.001$). There was no statistically significant difference in the mean lumbar spine TBS between SSc and RA patients ($p = 0.238$). Serum levels of 25 (OH) D were statistically significantly higher in patients with "Early" SSc pattern than in those both "Active" and "Late" pattern (19.1 ± 7.5 , 15.1 ± 5.3 , 12.1 ± 7.1 respectively, $p = 0.002$).

Conclusions: The bone quality seems lower in SSc patients with more altered microvasculature ("Late" NVC pattern). The data obtained showed also a significantly lower bone quality (lower TBS and BMD) in SSc and RA patients compared to CNT. The association between bone damage and the "Late" advanced NVC

pattern of microvascular damage, may suggest that tissue hypoxia/ischemia related to the diffuse microangiopathy might be a further promoting factor for osteoclastogenesis and bone loss. Our results support the development of a combined approach using both TBS and BMD for the assessment of bone microarchitecture/quality in SSc patients during their disease progression.

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AB1174

THE INFLAMMATORY CHANGES AT JOINTS AND ENTHESIS IN A COHORT OF PATIENTS AFFECTED BY OCHRONOSIS: AN ULTRASONOGRAPHIC STUDY

A. Adinolfi¹, V. Di Sabatino¹, C. Toscano¹, V. Picerno², M. Bardelli¹, E. Selvi¹, A. Santucci³, B. Galeazzi¹, B. Frediani¹, G. Filippou⁴. ¹Dep of Medicine, Surgery and Neurosciences, University of Siena, Siena; ²Rheumatology Institute of Lucania (IRel) and Rheumatology Dep of Lucania, San Carlo Hospital, Potenza; ³Dep of Biotechnology, Chemistry and Pharmacy, University of Siena, Siena; ⁴Dep of Medical Sciences, Section of Rheumatology, University of Ferrara, Ferrara, Italy

Background: The pathogenesis of Ochronosis, the musculoskeletal manifestation of alcaptonuria (AKU) is still unclear. The joint damage usually described is similar to osteoarthritis, but in some cases the spinal involvement could resemble spondyloarthritis (SpA). These findings suggest that inflammatory changes could be prevalent in some cases while degenerative aspects could be dominant in others.

Objectives: To evaluate the prevalence of inflammatory changes in peripheral joints and entheses of a cohort of patients affected by AKU.

Methods: Consecutive patients with definite diagnosis of AKU referred to our clinic from 2014 to 2017 were enrolled. All patients underwent an ultrasound (US) exam of the metacarpo-phalangeal joints (MCP), proximal interphalangeal joints (PIP), radiocarpal/mid carpal joints, elbow, gleno-humeral, hip, knee, ankle and metatarso-phalangeal (MTP) joints bilaterally; flexor and extensor tendons of fingers and wrists and the ankle tendons were also examined. Further, the entheses of the rotator cuff of the shoulder, triceps, quadriceps, patellar and Achilles tendons were assessed. Joints and tendons with a synovial sheath were assessed for effusion, synovial hypertrophy and power Doppler (PD) signal while entheses were evaluated for the presence of PD signal, enthesophytes and calcifications. All the US lesions were scored using a dichotomous scale (presence/absence). All US exams were performed by an expert sonographer blind to clinical history, using an Esaote MyLab70 scanner equipped with high resolution linear probes.

Results: We enrolled 19 patients (11 women) with a mean age of 53 yo (SD ± 14.69). Only 2 patients didn't show inflammation at any joint or tendon. The most involved joint was the knee (11/19), while regarding entheses, the Achilles tendon (4/19) and the distal patellar tendon insertion were the most frequently involved (6/19). The mean number of joints with effusion or synovial hypertrophy was respectively equal to 2,47 (median 2, range 1–8) and 1,84 (median 2, range 1–7), while 0,21 joints (median 0, range 0–2) presented also PD. The mean of the exudative tenosynovitis was 0,47 (median 0, range 0–3), while for proliferative tenosynovitis was 0,42 (median 0, range 0–2). The PD signal in tendons with sheaths was rare (mean 0,16, median 0, range 0–2). Finally, the mean number of entheses with PD was 0,95 (median 0, range 0–7) while the mean value was 0,37 (median 0, range 0–3) for enthesophytes and 2,63 (median 1, range 0–9) for calcifications.

Conclusions: The pathological processes that lead to the typical joint damage in ochronosis are not yet completely clarified. The results of this study showed that articular inflammation is common in these patients, sometimes associated with entheses involvement. The role of inflammation should be further addressed as could be a new therapeutic target for this disease.

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