MUSCULOSKELETAL ULTRASOUND (MSUS) IS SUPERIOR TO CLINICAL EXAMINATION REGARDING DETECTION OF ARTHRITIS IN PATIENTS WITH SYSTEMIC SCLEROSIS

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Background: Arthralgia is a frequent complaint in patients with systemic sclerosis (SSc). However, correct assessment of arthritis remains challenging especially in patients with severe scleroderma and/or soft tissue oedema.

Objectives: This study investigates the frequency of arthritis in SSc using musculoskeletal ultrasound (MSUS) compared to clinical investigation and in SSc.

Methods: Effusion, as well as synovitis in B- and PD-mode using MSUS was assessed in 31 consecutive patients with SSc; hand, finger, upper and lower ankle joints as well as metatarsophalangeal (MTP) joints were scanned totaling 1364 joints. In all patients carotid intima media thickness (CIMT) was assessed by Doppler ultrasound. Arthritis disease activity was assessed by the HAQ, and the DASS25, respectively; joint pain and patient global health (PGH) were quantified on a visual analogue scale (VAS). Skin involvement was measured using the modified Rodnan Skin Score (mRSS). CRF such as smoking, hypertension or positive family history were registered.

Results: All patients were negative for ACPA and rheumatoid factors. 58.06% (n=18) of patients had joint pain, 22.58% (n=7) clinical joint swelling. In MSUS, 82 joints with effusion were detected in 23 patients (I°: n=50 joints; II°: n=32 joints); 25 joints in 11 patients were detected by B-mode synovitis (I°: 9 joints; II°: 16 joints); 7 joints in 3 patients showed PD-synovitis (I°: 2 joints; II°: 5 joints). In 10 patients MSUS could detect effusion where clinical examination could not; none of the clinically suspicious joints had effusion in MSUS. B-mode synovitis was detected in 3 clinically normal patients, in 6 patients with joint pain, and in 3 patients with joint pain and swelling. 1 patient with PD-synovitis each had TJ/C2–SJC–TJC+; SJC+; or TJ/C+; SJC+; at clinical examination. The overall correlation of MSUS with clinical examination was poor (p>0.05). B-mode synovitis and PD-mode synovitis prevailed the MTPs (60%, n=15% and 85.71%, n=6, respectively).

Conclusions: In patients with arthralgia MSUS could detect clinically not obvious arthritis. Especially in joints with soft tissue oedema and sclerotic skin MSUS was superior to clinical examination. Interestingly, arthritis was most frequently found in the MTP and wrist joints supporting recent data. In this small cohort there was no significant correlation between CRP positivity and arthritis. Not surprisingly, carotid plaques were more frequent in elderly and/or long-term patients with one or more CRF. We plan to pursue this investigation in a larger cohort.

REFERENCE: