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Synovitis and tenosynovitis of the hands and wrists in patients with SSs: the need for a consensus definition of sclerosing tenosynovitis.

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Leïla Caillault, François Robin, Marine Tas, Guillaume Coiffier, Alain Lescoat declare no conflict of interest.

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We read with great interest the article by Fairchild and colleagues on ultrasound (US) evaluation of the hands and wrists in patients with systemic sclerosis (SSc)[1]. In this article based on the US evaluation of 43 SSc patients, inflammatory arthritis defined by a score >0 using semi-quantitative gray scale associated with a score >0 using power doppler was noticed in 18.6% of SSc patients. This prevalence is consistent with previous ultrasound studies in scleroderma[2,3]. Fairchild and colleagues also highlighted the high concordance of osteophytes with GS synovial hypertrophy and tender joints which may suggest that osteophytosis could be a significant contributor to synovial involvement in SSc patients[1]. Interestingly, the authors mentioned the presence of tenosynovial hypertrophy in 30.2% of SSc patients and reported fibrotic appearing hyperechoic tendon sheaths in the wrist extension tendons in 60.5% of the cases. Although the definition of inflammatory arthritis is thoroughly discussed, no specific US definition of this fibrotic appearing tenosynovial involvement is given in the methods and/or in the discussion in Fairchild and colleagues' article.

Sclerosing tenosynovitis is a recently described entity, classically characterized in ultrasound examination as the multilayered artichoke heart or onion bulb sclerosing pattern[2–4]. US characteristics of sclerosing tenosynovitis include an iso- or hyperechoic hypertrophy of the tendon sheath with concentric alternating iso- and/or hyperechoic layers. This tenosynovial involvement has been reported both in extensor and flexor tendon sheaths in SSc patients and is rarely associated with inflammatory activity when assessed by power doppler[2]. This fibrotic pattern may be as frequent as inflammatory arthritis in SSc patients[2]. Fibrotic/sclerosing tenosynovitis is more frequent in patients with the diffuse cutaneous subset (dcSSc), and could participate to the phenomenon of tendon friction rubs in this population[2,5]. Although mostly considered specific to SSc, such sclerosing/fibrotic tenosynovitis has been recently described in linear morphea in children [6,7]. This existence of fibrotic tenosynovitis in pediatric cases challenges the hypothesis that osteophytosis could participate in the pathogenesis of fibrotic tenosynovitis, considering the low prevalence of osteophytes in this younger population. Therefore, when assessing tenosynovial hypertrophy and US gray scale scoring in patients with

decipher the mechanisms of articular involvement notably when considering the interplays between osteophytosis and tenosynovial hypertrophy. To date, contrarily to the OMERACT definition of inflammatory arthritis, there is no consensus definition of tenosynovial fibrotic pattern in SSc and related disorders. We agree with Fairchild and colleagues that “given the challenges of physical exam, musculoskeletal ultrasound is a powerful tool to evaluate the spectrum of articular disease in patients with SSc and should be incorporated into future studies.” Such a future incorporation of US parameters in SSc trials and observational studies will require a specific definition and assessment of psychometric properties of each US parameters, such as tenosynovial patterns[3], but also vascular features including ulnar artery occlusion, as mentioned in Fairchild’s study, or US finger pulp-blood flow[1,8–10].

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