determine the extension and severity of enthesophyte growth in clinical practice.

Objectives: To evaluate the feasibility of two new scores to quantify enthesophytes occurrence and its dimensional changes with time.

Methods: We have evaluated 816 entheses two years apart in a consecutive series of 68 IBD patients for the presence and size of enthesophytes. Images were collected at baseline and after 24 months using an Esaote MyLabClass, 18-6 MHz linear multifrequency transducer both in B-mode and PD-mode. The following sites were evaluated bilaterally: lateral epicondyle of the humerus, distal quadriceps insertion at the patella, superior and inferior pole of the patella, Achilles tendon insertion, and plantar aponeurosis insertion. The presence of enthesophyte was scored dichotomously as present (=1) or absent (=0) for each site and summed up to generate the ARE score (ARES). Enthesophytes was also scored semi-quantitatively in a 0-3 scale (0 = absent, 1 = minimal, 2 = discrete, 3 = massive) according to Aydin SZ et al. [2] for each site and summed up to generate RES score (RESS). All the stored images were then reviewed and scored by 4 rheumatologists (FM, GC, PM, NG) well trained in US examination of entheses. ICC inter- and intra-observers was done for each site and for the ARES and RESS.

Results: ICC was excellent for presence or absence of enthesophytes both intra and inter examiner for all the sites. ICC of the ARE score was excellent (Cronbach alpha = 0.930, 95%CI 0.72-0.98). ICC was excellent also for the semi-quantitative RESS at all the examined sites and only moderate at the plantar fascia level (Cronbach alpha = 0.571, 95%CI -0.72-0.89). The total RESS have an excellent ICC (Cronbach alpha = 0.963, 95%CI 0.85-0.99).

Conclusion: The two scores are easily feasible and have high reliability and an excellent intra- and inter-observer reproducibility.

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AB1157

VALIDATION OF VECTOR (VELCRO CRACKLES DETECTOR) FOR THE DIAGNOSIS OF INTERSTITIAL LUNG DISEASE IN PATIENTS WITH CONNECTIVE TISSUE DISEASES

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Background: Interstitial lung disease (ILD) represents one of the most frequent pulmonary manifestations in connective tissue diseases (CTD) and it is characterized by severe implications in morbidity and overall prognosis. However, a routinely assessment of ILD is not so common in all CTDs. Velcro-type crackles are typical of lung fibrosis and have been proposed for the early diagnosis of the disease.

Recently, we validated the algorithm VECTOR (Velcro Crackles detector), developed to detect the presence of velcro-crackles in pulmonary sounds recorded by an electronic stethoscope (ES) in RA-ILD patients as screening for the diagnosis of interstitial lung involvement, showing a diagnostic accuracy, a sensitivity and a specificity of 83.9%, 93.2% and 76.9%, respectively.

Objectives: The aim of the present study was to evaluate the diagnostic accuracy of VECTOR in a population of CTDs, compared with the reference standard of high-resolution computed tomography (HRCT), in a monocentric study.

Methods: CTDs patients who underwent HRCT in the last 12 months were enrolled. They were auscultated with an ES (Littmann 3200TM 3M, USA), bilaterally, at dorsal level, in at least 3 pulmonary fields (apical, medium and basal). All tracks recorded were analyzed by suitably developed software (VECTOR) capable of recognizing pathological crackles in lung sounds. Results were compared with HRCT findings detected in a blind manner by an expert radiologist.

Results: Ninety CTDs patients were enrolled, namely 27.8% systemic sclerosis (SSc), 31.1% primary Sjögren's syndrome (pSS), systemic lupus erythematosus 11.1%, 7.8% polymyositis, 6.6% dermatomyositis, and 15.5% undifferentiated CTD (UCTD). Male/female ratio was 1/3.1 and a mean age of 63.9±12.7 years; among them 45 (50%) showed ILD at HRCT. The algorithm correctly classified 73/90 patients, with a sensitivity and specificity of 93.3% and 68.9%, respectively, and a diagnostic accuracy of 81.1% (figure 1).

Figure 1. Contingency table of diagnostic accuracy of VECTOR (Velcro-Sounds Detector)

	ILD -	ILD +	
Velcro -	31 34.4%	3 3.3%	91.2%
Velcro +	14 20.9%	42 46.7%	75%
	68.9% Specificity	93.3% Sensitivity	81.1% Diagnostic accuracy

Conclusion: These data confirm the diagnostic accuracy of VECTOR in detection of ILD in CTDs patients, as previously described also for RA-ILD. In some CTDs such as SSc, a careful evaluation of lung involvement is quite diffused, while for other CTDs, for example pSS or UCTD, ILD remains often underestimated, with a delay in diagnosis and treatment. Since lung complications represent one of the most serious and frequent cause of poor prognosis for all CTDs patients, the search for a simple, repeatable and radiation-free tool for the screening of these patients is mandatory. The routinely employment of an ES and VECTOR, combined to clinical findings (cough, dyspnea) and respiratory lung function tests, could increase our ability to early identify ILD in CTD patients.

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AB1158

CLINICAL AND VISUAL US PARAMETERS IN SYMPTOMATIC KNEE OSTEOARTHRITIS AND ASYMPTOMATIC PATIENTS

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Background Sonography is widely used because of its easy accessibility, relatively low cost. Sonography provides distinct information that bridges the gap between clinical and radiologic evaluation. There has been a growing interest in determining the sources of pain with ultrasound (US) findings in patients with knee osteoarthritis.

Objectives The aim of this study was to determine the relationships between clinical parameters and features of US of the knee.

Methods This was a cross-sectional study, recruiting 47 consecutive patients aged 47 (36- 54), 60,42% (n=29) were female. Those with recent trauma, rheumatic diseases were excluded from the study. Patients underwent assessment for knee pain (Visual Analog Scale (VAS)), US examination of the knee joints according to the 4-point scale (synovial proliferation, joint effusion, power Doppler signal (PD), patellofemoral joint cartilage (PFJ), medial femoral cartilage (MF), medial (MM) and lateral meniscus (LM), osteophytes, Baker cysts). US staging of knee OA was also performed.

Results Patients were divided into 2 groups: those with knee pain (n=28) and asymptomatic patients (n=19). Pathological US features were found in both groups (Table). In 5 out of 19 asymptomatic patients, degenerative changes of different degree of the joint structures were identified (PFJ, MF, osteophytes, MM,