AB1156
CORRELATION BETWEEN NAILFOLD VIDEOCAPILLAROSCOPY PATTERNS, LEFT VENTRICLE DYSFUNCTION AND PULMONARY DISEASE IN SYSTEMIC SCLEROSIS

Monaco Luigi1, Francesco Masini1, Koldian Gijoeishi1, Emanuele Pinotti1, Roberta Ferrara2, Teresa Salvatore3, Giovanna Guerra4,1. University of Campania Luigi Vanvitelli, Department of Medical and Surgical Sciences, Caserta, Italy, 2. University of Campania Luigi Vanvitelli, Medicina di precisione, Caserta, Italy

Background: Systemic Sclerosis (SSc) is a multisystem connective disease characterized by a microvascular damage, which leads to systemic fibrosis, immune dysregulation and progressive involvement of internal organs [1]. According to the classification of the morphological aspects, into the scleroderma pattern proposed by Cutolo et al. are described the early, active and late patterns.

Objectives: The aim of our study is thus to report a correlation between specific nailfold videocapillaroscopy pattern and internal organ involvement.

Methods: All enrolled patients were diagnosed for SSc, according to the American College of Rheumatology criteria and underwent an echocardiographic examination and a nailfold videocapillaroscopy. Myocardial function parameters considered were: global contractility (computed with the Simpson method), linear contractility (computed through the MAPSE) [2], diastolic dysfunction (through the analysis of the transmitial flow) [3]; whilst those of lung damage were: PAPs and the evaluation of the right ventricle contractility through the TAPSE [4].

Statistics were performed with SPSS 20 software, by using the Mann Whitney U Test and the Fischer Test.

Results: We enrolled 27 patients, of which 16 showing “active pattern” and 11 “early pattern”, compared to a group of 21 healthy controls. Of the 11 patients belonging to the “early” group, 1 resulted affected by diastolic dysfunction, whilst 3 had pulmonary hypertension, defined by PAPs >40 mmHg [4] (early vs controls; p=0.03). In the 16 patients of the “active” group, instead, 5 were found to have a diastolic dysfunction (active vs controls; p=0.01) and 6 pulmonary hypertension (active vs controls; p=0.003). In the group with “active” pattern we also observed a reduction in TAPSE compared to the control group (2.0 ± 0.2 vs 2.2 ± 0.2; p=0.025) and compared to the group with early pattern (2.0 ± 0.2 vs 2.2 ± 0.3; p=0.07).

No presence of modifications in the global contractility emerged; however, we observed a progressive reduction of the MAPSE (controls 1.76 ± 0.08; early 1.57 ± 0.04; active 1.49 ± 0.12), which resulted statistically significant among the different comparisons (controls vs early p=0.001; controls vs active p=0.0001; early vs active p=0.04).

Conclusion: The analyses showed a strict correlation between the severity of the microvascular alterations, reported by nailfold videocapillaroscopy, and the severity of the cardiopulmonary damage, expressed by an increase in the percentage of pulmonary hypertension, diastolic dysfunction and a progressive reduction of MAPSE and TAPSE.

| AB1156 | DEFINITION OF TWO NEW ULTRASOUND ENTHESOPHYES SCORES: APPLICATION IN A CONSECUTIVE SERIES OF IBD PATIENTS

Pietro Macchioni1, Federica Martinis2, Giorgia Ciritelli2, Nicolò Girolimetto4, Carlo Salvarani3, Arciprepostale di Santa Maria Nuova, IRCCS, Reggio Emilia, Italy, 1Policlinico GB Rossi, University of Verona, Verona, Italy, 2University of Modena and Reggio Emilia, Modena, Italy, 3Rheumatology Unit, Department of Clinical Medicine and Surgery, University Federico II, Napoli, Italy

Background: Recent studies have developed criteria for US definition of enthesal abnormalities [1] however no actual scores are available to

REFERENCES

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AB1155 | TABULATION BETWEEN NAILFOLD VIDEOCAPILLAROSCOPY PATTERNS, LEFT VENTRICLE DYSFUNCTION AND PULMONARY DISEASE IN SYSTEMIC SCLEROSIS

<table>
<thead>
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<th>Table 1. early vs controls</th>
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<td>PAPs</td>
<td>32.3 ± 5.4</td>
<td>22.6 ± 6.7</td>
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<tr>
<td>TAPSE</td>
<td>2.2 ± 0.3</td>
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<td>NS</td>
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<td>MAPSE</td>
<td>1.57 ± 0.4</td>
<td>1.76 ± 0.08</td>
<td>0.0001</td>
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<tr>
<td>EF</td>
<td>65 ± 4</td>
<td>64 ± 2.7</td>
<td>NS</td>
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<td>E/A</td>
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<td>1.36 ± 0.19</td>
<td>NS</td>
</tr>
<tr>
<td>DECT</td>
<td>148 ± 23</td>
<td>163 ± 27</td>
<td>NS</td>
</tr>
<tr>
<td>Diastolic dysfunction</td>
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<tr>
<td>Pulmonary hypertenison</td>
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<td>EF</td>
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<tr>
<td>DECT</td>
<td>157 ± 24</td>
<td>163 ± 27</td>
<td>NS</td>
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<tr>
<td>Diastolic dysfunction</td>
<td>5(16)</td>
<td>0(21)</td>
<td>0.01</td>
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<tr>
<td>Pulmonary hypertenison</td>
<td>6(16)</td>
<td>0(21)</td>
<td>0.003</td>
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</table>

Disclosure of Interests: None declared
determine the extension and severity of enthesophyte growth in clinical practice.

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

Methods: We have evaluated 816 enthesis two years apart in a consecu-
tive series of 68 IBD patients for the presence and size of enthesophyses. 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 epi-
condyle of the humerus, distal quadricipital insertion at the patella, super-
ior and inferior pole of the patella, Achilles tendon insertion, and plantar aponothesis insertion. The presence of enthesophyte was scored dichoto-
mously 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 enthesis. 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 enthesophyses both
intra and inter examiner for all the sites, ICC of the ARE score was
excellent (Cronbach alfa = 0.930, 95%CI 0.72-0.98). ICC was excellent also
for the semiquantitative RESS at all the examined sites and only moderate at the plantar fascia level (Cronbach alfa = 0.571, 95%CI -
0.72-0.89). The total RESS have an excellent ICC (Cronbach alfa = 0.963, 95%CI 0.85-0.99).

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

REFERENCES
1. Balint PV, et al. Reliability of a consensus-based ultrasound definition and
scoring for enthesitis in spondyloarthritids and psoriatic arthritis: an OMERACT
2. Aydin SZ, et al. A relationship between spinal new bone formation in any-
losing spondylitis and the sonographically determined Achilles tendon entheso-

Disclosure of Interests: None declared

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

Andrea Manfredi1, Giulia Cassone1,2, Fabrizio Pancaldi, Caterina Vacchi1, Stefania Cerri1, Giovanni della Casa1, Carlo Salvarani1,2, Marco Sebastiani1,2,2.University of Modena and Reggio Emilia, Azienda Ospedaliero-Universitaria Policlinico di Modena, Modena, Italy. 1IRCCS Arcispedale Santa Maria Nuova, Azienda Unità Sanitaria Locale-IRCCS di Reggio Emilia, Reggio Emilia, Italy. 2University of Modena and Reggio Emilia, Department of Sciences and Methods for Engineering, Modena, Italy

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. Velo-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 76.6%, respectively.

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

Methods: CTD 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 devel-
oped 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: Nifty CTD patients were enrolled, namely 27.8% systemic sclero-
sis (SSc), 31.1% primary Sjögren’s syndrome (pSS), systemic lupus erythe-
rmatous 11.1%, 7.8% polymyositis, 6.6% dermatomyositis, and 15.5%
differentiated 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)

Conclusion: These data confirm the diagnostic accuracy of VECTOR in
detection of ILD in CTD patients, as previously described also for RA-
ILD. In some CTDs such as SSc, a careful evaluation of lung involve-
ment is quite difficult, while for other CTDs, for example pSS or UCTD, ILD remains often underestimated, with a delay in diagnosis and treat-
ment. 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 func-
tion tests, could increase our ability to early identify ILD in CTD patients.

REFERENCES

Disclosure of Interests: None declared

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

Natalia Martusevich1, Katsiariara Gudkevich2, Alexander Aleshkevic2, Tatsiana Bondar3, 1Belarusian State Medical University, Department of Cardiology and Internal Diseases, Minsk, Belarus; 2Minsk City Clinical Hospital #6, Minsk, Belarus; 3Belarusian State Medical University, Minsk, Belarus; 4Minsk Regional Clinical Hospital, Minsk, Belarus

Background: Sonography is widely used because of its easy accessibility, rela-
tively 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 clin-
ical 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, rheu-
matic diseases were excluded from the study. Patients underwent assessment for knee pain (Visual Analag Scale (VAS)), US examination of the knee joints accord-
ing to the 4-point scale (synovial proliferation, joint effusion, power Doppler signal (PD), patelofemoral 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,