Table 2. ROC analysis of the performance of anti-CCP using various ultrasound erosion score criteria

Ultrasound erosion score criterion	Area under the ROC Curve (AUC) (95%CI)
> 2.25 (25 th percentile)	0.57 (0.26, 0.87)
> 4.5 (median or 50 th percentile)	0.68 (0.40, 0.95)
> 7 (75 th percentile)	0.72 (0.26, 0.97) ¹

¹Corresponding Threshold=95.2, Specificity=53.8%, Sensitivity=83.3%, Accuracy=63.2%, Negative Predictive Value=87.5%, Positive Predictive Value=45.5%.

Figure 1. Scatter plots for RF and anti-CCP levels with ultrasound erosion scores

Conclusion: The prognostic significance of anti-CCP and RF appears to differ in RA. Specifically, among patients with at least moderate disease activity (DAS28 ≥ 3.2), anti-CCP - but not RF - is associated with joint damage, being moderately correlated with US detected erosions.

References: Nil:

Disclosure of Interests: None declared

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AB1134 ULTRASOUND FINDINGS IN HAND JOINTS INVOLVEMENT: A COMPARATIVE STUDY BETWEEN PSORIATIC AND RHEUMATOID ARTHRITIS

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Background: Psoriasis is a common skin disease that is associated with multiple conditions. The most prevalent coexisting condition is psoriatic arthritis (PsA) which develops in up to 30% of patients with psoriasis and characterized by diverse clinical features often resulting in delayed diagnosis and treatment. [1]

Objectives: The aim of this study was to investigate the potential of ultrasound (US) in the differential diagnosis between rheumatoid arthritis (RA) and PsA at the level of small joints of the hand and wrist.

Methods: Fifteen patients with PsA of the hands and wrists and 20 age and sex-matched RA patients were examined with musculoskeletal US. Radiocarpal, midcarpal, distal radioulnar, metacarpophalangeal (MCP), proximal interphalangeal (PIP) and distal interphalangeal (DIP) joints and flexor and extensor tendons (in wrist and hand) were examined bilaterally. Synovitis, erosions and tenosynovitis were scored according to semiquantitative method.[2]

Figure 1 Sixty year old male patient with RA for 5 years, presented with pain and swelling at the wrist. Gray scale ultrasound sagittal view shows severe synovial proliferation at the radiocarpal joint

Results: Among 510 and 680 joints examined in PsA and RA respectively, certain US features such as synovitis and erosions at the DIP were exclusively detected in PsA ($p < 0.001$). Synovitis was frequently present at the radioulnar joints in RA in comparison to PsA patients (52.5% vs 26.7% respectively, $p = 0.029$). Joint effusion was frequently detected at radiocarpal and midcarpal joints in RA in comparison to PsA ($p = 0.047$, 0.039 respectively). Effusion at the 3rd PIP joints was more significantly present in PsA than RA ($p = 0.037$), while erosions were significantly detected at radiocarpal joints in RA in comparison to PsA patients (45% vs 20% respectively, $p = 0.029$). Tenosynovitis was significantly detected at the extensor tendons in RA and at the flexor tendons in PsA patients ($p = 0.021$, 0.022 respectively).

Conclusion: There are significant differences in the US findings of the hand and wrist that can help to distinguish between RA and PsA

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AB1135 ECHO-ANATOMY OF THE PROXIMAL TIBIOFIBULAR JOINT

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Background: The proximal tibiofibular joint (PTFJ) should be considered in the differential diagnosis of a patient presenting with complaints in the lateral aspect of the knee. However, this joint is often forgotten, yet involved in many degenerative and inflammatory pathological processes. MRI remains the imaging of choice to study the PTFJ. Ultrasound could also be useful in clinical practice to study the joint and its environment. To our knowledge, there is no systematic descriptive echo-anatomical study of PTFJ that would allow to standardize the ultrasound scanning of this joint.

Objectives: The objective of our study was to describe standardized ultrasonographic scans of the PTF joint and its environment starting from an anatomical study of the joint and then confirming the visibility of the different structures on a series of healthy volunteers.

Methods: We first conducted an anatomical study of the PTFJ on 3 cadavers. The different part of the joint (capsule, cartilage, ligaments) and the environment (nerves, muscles, vessels) were studied allowing an exact correlation between US images and the structures. This step led us to choose 3 scans useful for the study of the different part of the joint in clinical practice (figure 1): an anterior transverse oblique, a strict coronal, and a posterior transverse oblique. Subsequently, a TFPJ ultrasound was performed on 20 healthy volunteer patients to evaluate the feasibility and the visibility of the different structures seen on the dissection part.

Figure 1.

Results: The different structures seen on the anterior transverse oblique scan were the anterior joint space, cartilage and anterior proximal tibiofibular ligament. The coronal approach led us to the visualization of the joint space, the collateral lateral ligament, the inferolateral genicular and posterior tibial recurrent artery, the meniscus and more posteriorly the ligaments of the posterolateral corner (popliteofibular, arcuate and fabellolofibular). Finally, the posterior transverse oblique allowed us to study the posterior ligaments and joint recess under the

soleus muscle. Twenty healthy volunteers with an average age of 29 years underwent an ultrasound of the right PTF joint. The joint line spacing was visualized in 100% of the cases on the 3 sections. The anterior cross-section allowed anterior proximal tibiofibular ligament analysis in 100% of the cases (median length 15.7 mm (min-max: 12.3 – 23.4), median thickness 1.4 mm (min-max: 1-2.3). The coronal section allowed identification of the inferolateral geniculate and posterior tibial recurrent arteries in 90 and 85% of cases respectively, and the distal insertion of the fibular collateral ligament in 100% of cases. Posterior sectioning was more challenging and identification of the popliteal tendon, arcuate ligament and posterior proximal tibiofibular ligament was possible in 16, 7 and 2 patients respectively.

Conclusion: We performed a 2-step study: a cadaveric study followed by an ultrasound on healthy volunteer which allowed us to define 3 standardized scan of the PTF joint. These sections allow a thorough study of the PTF joint and the surrounding structures although study of the posterolateral corner ligaments remains challenging. We think that this scanning method can be integrated into daily clinical practice in rheumatology and in sports medicine.

Disclosure of Interests: None declared

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AB1136 THE DIAGNOSTIC VALUE OF SERUM KL-6 IN CONNECTIVE TISSUE DISEASE ASSOCIATED INTERSTITIAL LUNG DISEASE IN THE UYGUR POPULATION OF CHINA.

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Background: Connective tissue diseases are a group of inflammatory, immune mediated disorders. Interstitial lung disease (ILD) is associated with significant morbidity and mortality. Currently, scientists are still looking for serum markers to diagnose interstitial lung disease. Although serum KL-6 level has been studied in ILD of various aetiologies and revealed to be an important serum marker for ILD, but differences in KL-6 expression related to ethnic and/or genetic variants may exist.

Objectives: To evaluate the diagnosis of the serum Krebs von den Lungen-6 (KL-6) for CTD-ILD in the Uygur population of China.

Methods: 117 Patients with CTD-ILD (CTD-ILD group) and 182 patients with CTD (CTD group) who visited the department of rheumatology and immunology of People's Hospital of Xinjiang Uygur Autonomous Region between January, 2015 and December, 2019 were included. Serum KL-6 levels were measured by chemiluminescent enzyme immunoassay kit.

Results: The significantly higher levels of KL-6 were determined in the RA-ILD group than RA group [569(287.5,984)U/ml vs 194(152,266.5)U/ml]($P<0.001$) (figure 1). The optimal cutoff value of serum KL-6 for diagnosis of RA-ILD was 345.5 U/ml, and the sensitivity and specificity were 71.8% and 90.1 %, respectively. Area Under the Curve (AUC) was 0.875. (figure 2)

Figure 1. Comparison of serum KL-6 concentrations in CTD-ILD group and CTD group.

Fig 2. Receiver-operating characteristic curve (ROC) of KL-6 for the diagnosis of CTD-ILD

Conclusion: The serum KL-6 is an important biomarker for the diagnosis of CTD-ILD and Serum KL-6 could be a clinically useful biomarker in screening CTD-ILD in the Uygur population of China.

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AB1137 CLASSIFICATION OF THE EARLY STAGE OF RAPIDLY DESTRUCTIVE COXOPATHY ACCORDING TO THE FEMORAL HEAD DESTRUCTION

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Background: Rapidly destructive coxopathy (RDC) is an unusual subset of osteoarthritis of the hip characterized by rapid chondrolysis with progressive loss of the joint space as the first manifestation of the disease. Because rapid progression of RDC makes it difficult to obtain sequential radiographs in its early stage, the process of disease progression in the early stage remains unclear. Although the pathogenesis of RDC is still unclarified, the potential causes of RDC include subchondral insufficiency fracture of the femoral head resulting from osteoporosis, pelvic posterior inclination in RDC as a mechanical factor, and increased serum levels of matrix metalloproteinase (MMP)-3 as a biological factor.

Objectives: This study aimed to differentiate the process of disease progression in the early stage of RDC and provide its new classification system.

Methods: This monocentric retrospective study included 42 female patients who met the criteria of RPOH, chondrolysis >2mm during 12 months from the onset of hip pain based on a series of radiographs and computed tomography (CT). This study also included 9 female patients with osteoarthritis secondary to developmental dysplasia of the hip (DDH), who demonstrated chondrolysis >2mm during 12 months from the onset of hip pain. Cortical thickness index (CTI) correlated with bone mineral density of the hip, pelvic tilt, and serum concentrations of matrix metalloproteinase (MMP)-3 were analyzed.

Results: RDC were classified into two types based on the absence (type 1, n=17) and presence (type 2, n=25) of subsequent femoral head destruction shown by CT within 12 months after the onset of hip pain. MMP-3 significantly