sleep disorders as predictors of fatigue. In SLE patients, fatigued patients had lower quality of life than those who were non-fatigued.

Conclusions: This is the first known evaluation of the contributors of fatigue and the effects of fatigue on SLE patients' quality of life in China. The majority of Chinese SLE patients suffer from fatigue, which significantly impairs their quality of life. The results emphasise the need for holistic assessment and targeted intervention/management of SLE patients to relieve the symptoms of fatigue and finally improve their quality of life.

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THU0383

PERFORMANCE OF MUSCULOSKELETAL INVOLVEMENT OF SYSTEMIC LUPUS ERYTHEMATOSIS: AN ULTRASOUND STUDY IN 114 PATIENTS

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Background: Joints are commonly involved in systemic lupus erythematosus (SLE). Ultrasound (US) has been widely used in rheumatoid arthritis (RA), however rarely applied and studied in SLE.

Objectives: To investigate the ultrasonic changes of the symptomatic joints and their correlations with clinical manifestations in SLE patients.

Methods: 114 SLE patients who complained of arthralgia or arthritis from May 2014 to Aug 2017 and 15 Rhupus patients due to overlapping with RA were recruited for ultrasound evaluation. Ultrasound scan of the symptomatic joint areas was completed. The correlation between ultrasonographic changes and clinical characteristics was analysed. Besides that, US changes of bilateral wrists and hands of Rhupus patients were compared with those of the SLE patients.

Results: In a total of 1866 joints scanned, synovial hyperplasia, tenosynovitis, erosion and osteophytes were all observed. Synovial hyperplasia was more often observed in knees in 28.6% patients (12/42), ankles in 25% patients (7/28), wrists in 23.3% patients (23/69) and elbows in 20% patients (5/25). Tenosynovitis and erosion were most commonly found in shoulders in 35% (7/20) and 65% (13/20) patients. Osteophytes were more common in proximal interphalangeal (PIP) joints, elbows and knees. Among 69 patients with 22 joints (bilateral wrists and hands) scanned, synovial hyperplasia was observed in 25 patients (36.2%) and erosion in 22 patients (31.8%). The agreement between synovial hyperplasia and swollen joints in PIP was fair ($\kappa=0.633$, $p<0.01$), however poor in wrists ($\kappa=0.089$, $p=0.584$). 18.4% patients with synovial hyperplasia had no tenderness or swollen clinically, while 15.7% patients with tenderness or swollen had no synovial hyperplasia on ultrasound. No correlation was found between ultrasound changes with SLE disease activity index. Both synovial hyperplasia and erosion were more common in Rhupus patients (73.3% vs. 36.2%, $p=0.08$; 66.7% vs. 26.0%, $p=0.03$) with significantly higher GS score (7.4 ± 6.4 vs. 1.6 ± 4.1 , $p=0.04$) than SLE alone patients.

Conclusions: Variety of changes can be observed by ultrasound at different joints in SLE patients. The ultrasonographic changes and clinical manifestations did not always correspond to each other. Synovial hyperplasia and erosion was more common in Rhupus patients.

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THU0384

SALIVARY GLAND ULTRASONOGRAPHY AND STIMULATED SALIVARY FLOW CORRELATED WITH SALIVARY GLAND BIOPSY AMONG PATIENTS WITH SJÖGREN SYNDROME AND SICCA SYMPTOMS: EXPERIENCE FROM A SINGLE MEDICAL CENTRE IN TAIWAN

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Background: Sjögren's syndrome is an autoimmune disease that involves several organs. In the latest classification criteria, salivary minor gland is one of the major factor contributing to the diagnosis. Ultrasonography is a non-invasive, easy accessible tool in evaluation the contour and structure of salivary glands, which have been shown to have efficacy in monitoring the disease status of Sjögren's syndrome as well as in diagnosis the disease. Otherwise, salivary flow rate is another component of classification criteria, and its association with disease activity remains to be elucidated.

Objectives: To investigate the efficacy of salivary gland ultrasonography and salivary flow rate in patients with Sjögren's syndrome and Sicca symptoms.

Methods: Total 97 patients of primary or secondary Sjögren's syndrome, and patients with sicca symptoms were enrolled. Ultrasonography was performed at parotid and submandibular glands with 13–16MHz linear probe. Each gland was scored from 0 to 4. Minor salivary gland biopsy results were examined by pathologist with Chisholm-Mason grade. Unstimulated salivary flow rate was recorded first, and stimulated salivary flow rate was tested after 5 min of sugar-free chewing gum stimulation. Patients' symptoms were recorded by ESSPRI questionnaires.

Results: Total 56 primary Sjögren's Syndrome, 10 secondary Sjögren's Syndrome, and 31 patients with sicca symptoms were enrolled. Significant correlations were noted between unstimulated salivary flow rate and minor gland biopsy ($p=0.029$), stimulated salivary flow rate and biopsy ($p=0.006$), salivary gland ultrasonography and minor gland biopsy ($p<0.001$), and minor gland biopsy with serum anti-SSB (La) level ($p=0.009$). The correlations between minor gland biopsy and serum anti-SSA (Ro) level was not significant. The stimulated salivary flow rate also correlated with self-reported dryness in ESSPRI questionnaires ($p=0.018$). The salivary gland ultrasonography also correlated with ESSPRI ($p<0.001$) and the three factors in ESSPRI (dryness, $p<0.001$; pain, $p=0.039$; fatigue, $p=0.002$).

Conclusions: Both salivary gland ultrasonography and salivary flow rate correlated with the severity of salivary minor gland biopsy. The stimulated salivary flow rate had better correlations with the biopsy result than unstimulated flow, and it also correlated with patients' self-reported dryness symptoms. Salivary gland ultrasonography had correlations with symptoms of patient. These non-invasive methods may play roles in evaluation of the disease activity.

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THU0385

URINARY INFLAMMATORY CELLS REFLECT HISTOPATHOLOGICAL KIDNEY INJURY IN PATIENTS WITH LUPUS NEPHRITIS

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Background: Lupus nephritis (LN) is one of the common manifestations of systemic lupus erythematosus (SLE), and is considered to be a very important factor influencing the course of the disease. Although kidney biopsy is the gold standard for defining the histopathologic class of LN, it is an invasive procedure sometimes associated with a risk of bleeding and thrombotic events; furthermore, repeated biopsies are not always applicable in clinical practice. We have already reported that, in patients with glomerulonephritis, inflammatory cells such as T cells and macrophages appear in the urine when there are accompanying signs of active cellular infiltration such as cellular crescent formation and diffuse interstitial cell infiltration, but not when active inflammatory lesions are absent.

Objectives: To assess the utility of urinary inflammatory cell analysis in patients with LN by examining the correlations between the numbers of urinary inflammatory cells and renal histopathological findings.