THU0600

QUANTITATIVE INDEXES TO ASSESS THE INTERSTITIAL LUNG DISEASE, AND ITS EXTENSION, IN SJÖGREN'S SYNDROME

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Background: Interstitial lung disease (ILD) is the most frequent pulmonary impairment in Sjögren's syndrome (SS). The diagnosis is challenging, as there are not specific tests (i.e. autoantibodies or pulmonary function tests) or symptoms. Chest CT is the gold standard. Semiquantitative visual scores (SQCT) estimate ILD extent, though burdened by relevant intra-, inter-rater variability. Quantitative chest CT (QCT) is a promising method to assess ILD severity

Objectives: to verify if QCT assessment could identify SS subjects affected by ILD and to identify those SS patients with an extensive lung disease.

Methods: in this multi-center, cross-sectional, and retrospective study, subjects affected by SS and with a chest CT were enrolled. A blind and centralized SQCT assessment was carried out in order to calculate both Goh and Taouli scores. An operator-independent analysis of all CTs with an open-source software (i.e. Horos), provided the QCT indexes. Patients were clustered in cohorts according to ILD extent. Differences in QCT indexes distribution were analyzed using non-parametric tests.

Results: 102 consecutive SS patients were enrolled. ILD prevalence was 36% (36/102). There was a difference in QCT indexes' distribution in SS-ILD versus SS without ILD ($p < 0.001$). Moreover, SS-ILD patients with an ILD >20% (according to Goh score) had QCT indexes statistically different from those with a limited ILD extension ($p < 0.001$). QCT indexes have a moderate to good correlation with Goh and Taouli scores (from 0.44 to 0.65; absolute numbers, +/-; $p < 0.001$). To value its potential of diagnosis, ROC curves were calculated, achieving several of them values of AUC > 0.7; the best QCT index was: tSkew AUC 0.87 (95CI 0.78-0.95), $p < 0.001$; cut-off ≤ 2.72 - sensitivity 0.81 (95CI 0.65-0.9), specificity 0.82 (95CI 0.7-0.89).

Conclusion: QCT indexes are a serious alternative to visual scorings in ILD related to autoimmune diseases. This innovative tool will open up a potential research area in SS as it appears able to select ILD patients with an extensive lung impairment and likewise a worse prognosis. We are confident that in the next future, QCT will have a pivotal role in the diagnosis, monitoring and treatment pathway of ILD associated to SS.

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THU0601

SALIVARY GLAND ULTRASONOGRAPHY FOR SJÖGREN SYNDROME AND SICCA SYMPTOMS WITH EVALUATION THE DIFFERENT IMAGE PARAMETERS AND BIOPSY RESULT

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Background: Sjögren's syndrome involves multiple organs, especially the lacrimal and salivary glands. Salivary gland ultrasonography (SGUS) is

quick and easily accessible, which provides visibility of salivary glands. Currently, there were several scoring systems for SGUS. Acuity for different image parameters remained unclear, and these parameters including heterogeneity of glands, clearance of posterior border, size of glands, fibrosis bands and size of vacuoles in the glands. Each gland would be scored through these parameters which may rank from 0 to 3 or 0 to 4. The weight of different parameters have not been clarified.

Objectives: To evaluate the effectiveness of different image parameters of SGUS in evaluation Sjögren's syndrome.

Methods: Total SGUS with 56 patients were retrospectively evaluated, who also underwent minor salivary gland biopsy. SGUS was conducted by a 10MHz-13MHz linear probe at both parotid and submandibular glands. Each gland was scored from 0 to 4 according to the scoring scale proposed previously. The total maximum score was 16. Heterogeneous structure, fibrosis band and size of vacuoles were evaluated for each gland. Minor salivary gland biopsy was evaluated with Chisholm-Mason grade, ranging from 1-4.

Results: The distribution of minor salivary gland biopsy was grade 1 (28.6%), grade 2 (14.3%), grade 3 (19.6%), and grade 4 (37.5%). The average SGUS score was 6.00 for grade 1, 6.38 for grade 2, 7.00 for grade 3 and 10.00 for grade 4 ($p=0.019$). Evaluation different image parameters for each gland, heterogeneous structure and fibrosis bands revealed significant in linear regression of parotid gland score (heterogeneous structure $p=0.043$ for left side, $p=0.025$ for right side; fibrosis bands $p<0.001$ for both sides) but size of vacuoles did not reveal significant. Fibrosis bands and size of vacuoles revealed significant in the linear regression model of submandibular glands (both <0.001 in both sides). Final pathology grade correlated with fibrosis bands of left side parotid gland ($p=0.006$), fibrosis bands of both sides of submandibular glands ($p=0.006$ for left side, $p=0.001$ for right side), and size of vacuoles among submandibular glands ($p=0.003$ for left side, $p=0.012$ for right side). In regarding to the different image parameters, the biopsy result correlated well with total summation of SGUS ($p=0.004$).

Conclusion: Different image parameters had different significance for representing the gland conditions. For parotid glands, fibrosis bands and heterogeneous structure were main parameters. For submandibular glands, fibrosis bands and size of vacuoles accounted for the change of glands. SGUS correlated with final pathology result.

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THU0602

THE ROLE OF INFRARED THERMOGRAPHY IN THE ASSESSMENT OF PERIPHERAL VASCULOPATHY AND IN THE THERAPEUTIC MANAGEMENT OF SYSTEMIC SCLEROSIS PATIENTS TREATED WITH SYNTHETIC PROSTANOIDS

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Background: Skin lesions represent the leading feature of systemic sclerosis (SSc), with Raynaud's phenomenon (RP) the most frequent and early clinical manifestation of the disease. Digital vasculopathy severely affects SSc patients, lowering their quality of life and negatively impacting on their daily functions. Digital ulcers is associated with poor cardiovascular prognosis and decreased survival rate [1]. Nevertheless, standardized treatment strategies and non-invasive tools for the management of RP and SSc skin manifestations are badly needed.

Objectives: The aim of this study was a) to evaluate the efficacy of infrared thermography in the assessment of peripheral vasculopathy in a cohort of SSc patients treated with cyclic intravenous infusions with synthetic prostanoids b) to identify those patients who might benefit from an intensified infusional treatment protocol with prostanoids.

Methods: Twenty-six SSc patients [2], attending our Department for their routinely 28-days apart intravenous therapy with prostanoids (Iloprost) based on the presence of severe secondary RP and/or digital ulcers, were enrolled in this study. Thermographic evaluation of both hands was made at baseline (T0), and at days 14 and 28 after the first prostanoid infusion (named T1 and T2, respectively). Statistical analyses have been performed and a p-value <0.05 was considered statistically significant.