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https://doi.org/10.1016/j.reumae.2019.01.002

Ultrasound evaluation in gouty patients with persistent clinical activity despite uricaemia within the objective required by "treat to target"☆

Evaluación ecográfica en pacientes gotosos con actividad clínica persistente a pesar de uricemia dentro de objetivo requerido por «treat to target»

Dear Editor,

Gout is the most prevalent arthritis worldwide. It is caused by monosodium urate (MSU) crystal deposits in articular and extra-articular structures, due to the increased levels of uric acid in serum in excess of saturation levels.[1] The gold standard diagnostic technique for gout continues to be the detection of MSU crystals in synovial fluid[2] although in the latest ACR/EULAR diagnostic classification criteria dual-energy computed tomography (DECT) has been included along with ultrasonography as accepted diagnostic techniques.[3,4] These provide more precise information regarding the course of the disease, since on many occasions the extent of MSU deposits is greater than expected, affecting clinically non-apparent joints.[5]

The aim of our study was to use ultrasound to assess the effects on joints in those patients included in the study whose disease was badly controlled clinically despite hyperuricaemia treatment. To do so, the level of crystal deposits and ultrasound compromise were studied, together with the uricaemia level. This was an observational cross-sectional study with 115 patients diagnosed with gout in keeping with the ACR[6] criteria of a multi hospital group which took place between December 2013 and May 2017. The ultrasound test was performed according to the Peiteado et al.[7] protocol which determined the number of joints with signs of gout (double contour sign, aggregates and/or tophi) and signs of acute activity through Doppler indication. Variables such as age, sex, high blood pressure, diabetes, chronic kidney disease and the evolution of the disease over time were also included.

One hundred and fifteen patients (112 men and 3 women) with a mean age of 57 ± 13 years and a mean disease evolution of 14 ± 10 years took part. All of them had poor clinical disease control with single joint compromise. Ultrasound compromise observed was: 47 patients (40.86%) with Doppler presence, 90 with aggregates and/or tophi (78.26%) and 53 with double contour sign (42.08%). The uricaemia mean was 7.4 mg/dl. Out of the 115 patients studied, 94 presented with levels of uric acid above 6 mg/dl, of which an extensive joint compromise was observed in 76.59%. The remaining 21 patients presented with uric acid levels below 6 mg/dl, of whom 18 had extensive ultrasound compromise (85.71%). The correlation between uricaemia and ultrasound compromise was not statistically significant (OR = .3; .6–1.1) As a result, in this study we observed that the patients with uricaemia which was within the therapeutic objective (<6 mg/dl) presented with a greater degree of ultrasound compromise than was expected.

Once gout has been diagnosed, follow-up is usually clinical and analytical, aimed at maintaining urate levels within the recommended objective in national and international guidelines. However, even reaching optimum uricaemia levels, MSU crystal deposits may continue to be present in the joint.[8] For this reason we could consider ultrasound as a key tool in the follow-up of those patients whose uricaemia levels fall within therapeutic objective levels, but where clinical activity is still persistent. This technique allows us to correctly determine the extent of the deposits and joint compromise in the gout, which may support the decision to change or intensify treatment, to promote crystals dissolution and disappearance of subclinical inflammation.[9,10] It is also an accessible and innocuous technique for quick, non-invasive assessment of the magnitude and extension of the disease, leading to further information than standard physical examination.

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☆ Please cite this article as: Navarro MN, Aranda EC, Alarcón JC, Lefebvre PG. Evaluación ecográfica en pacientes gotosos con actividad clínica persistente a pesar de uricemia dentro de objetivo requerido por «*treat to target*». Reumatol Clin. 2020;16:512-513.

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https://doi.org/10.1016/j.reumae.2018.10.019

Pleuroparenchymal fibroelastosis: A new entity of interstitial pneumonia related to connective tissue diseases☆

Fibroelastosis pleuroparenquimatosa: un nuevo tipo de neumonía intersticial asociada a conectivopatías

Dear Editor,

Pleuroparenchymal fibroelastosis (PPFE) is a new entity that was recently included in the group of rare or infrequent idiopathic interstitial pneumonias.[1] It is characterised by the development of an elastic fibre-rich fibrosis that affects the pleura and subpleural pulmonary parenchyma, predominantly in the upper lobes.[2] It may be idiopathic or secondary to multiple processes, including systemic autoimmune diseases.[3]

We present the case of a 52 year old women from Peru who has lived in Spain for 23 years. She works as a home help and has no relevant family or personal history. A year ago arthralgia when moving commenced together with xerostomy but without xerophthalmia or any other associated symptom. Physical examination, cardiopulmonary auscultation and musculoskeletal and cutaneous examination were normal. Haemogram, general biochemistry and creatine kinase (111 U/l) were normal. IgG immunoglobulin in serum was raised (2.410 mg/dl). FR was positive (242 UI/mL), ACPA was negative, ANA was positive (1/640), anti-Ro was positive (240 UI/mL), anti-La was positive (75 UI/mL) and anti-DNA was negative. The following complementary tests were requested: serological tests for VHC and VHB, Interferon Gamma Release Assay (IGRA), sacroiliac X-ray imaging, echocardiogram, specific myopathy antibodies (anti-MI2, anti-SRP, anti-PM-SCL, anti-PL7, anti-PL12, anti-KU, anti-OJ and anti-EJ) and capillaroscopy, all of which were normal or negative.

Salivary gland biopsy revealed the presence of multiple areas of lymphocyte infiltration. She was diagnosed primary Sjögren syndrome on the basis of ACR-EULAR 2017 criteria.[4] Thoracic X-ray imaging showed pleural thickening and fibrosis in the apical cap, and pulmonary TCA imaging showed subpleural consolidations together with predominantly bilateral apical pleural thickening, leading to a moderate loss of volume in both upper lobes, all of which is compatible with PPFE (Fig. 1). Respiratory function tests including CO diffusion were normal.

Treatment commenced with 5 mg/day prednisone, in spite of which the patient described worsening of the xerostomy and a subjective sensation of dyspnoea during moderate efforts. A second pulmonary CTA showed no radiological progression after a 6 month follow-up.

PPFE was first described in 1992 by Amitani et al. as idiopathic pulmonary fibrosis of the upper fields, and in 2004 it was recognised by Frankel et al. as a new clinical-pathological entity. Since then approximately 120 cases have been described worldwide, above all in Asiatic populations.[5] Of all these cases, about 20% were associated with connective tissue pathologies.[6] In 2013 this entity was included in the classification of idiopathic interstitial pneumonias of the American Thoracic Society/European Respiratory Society, within the category of rare interstitial pneumonias.[1]

This disease occurs in adults with an average age of around 57 years, affecting both sexes equally[1] and without showing any association with smoking.[3,5] Its symptoms are usually dyspnoea, unproductive cough, pleuritic pain or weight loss.[7] This entity may be idiopathic or secondary to multiple processes: infections, radiation, transplant or neoplasias, including rheumatological diseases[3] such as rheumatoid arthritis, myopathies, scleroderma or Sjögren's syndrome.[6]

The characteristic findings in CTA imaging are the bilateral presence of irregular pleural thickening and fibrotic changes in upper fields of the subpleural parenchyma, and it may coexist with other radiological patterns of pulmonary interstitial disease in different areas of the parenchyma. Anatomic-pathological findings are the presence of pleural and intra-alveolar fibrosis together with elastosis of the alveolar septa.[8]

Patients with PPFE are at higher risk of pneumomediastinum or pneumothorax,[6] either spontaneously or after a pulmonary biopsy for definitive diagnosis based on anatomopathological findings.[9] This is why the utility of cryobiopsy as a less invasive diagnostic technique is being evaluated, as it reduces complications of this type.[7] Differential diagnosis must be considered against other entities which are found radiologically to predominantly affect the upper lobes, including sarcoidosis or tuberculosis.

PPFE has a highly variable prognosis, and its evolution is sometimes extremely severe.[6] Although a case has been described that improved with pirfenidone,[10] in general there is no effective treatment. The main causes of death are the progression of the disease and respiratory infections.[6] Three cases have been published to date in Spain, all of which evolved unfavourably and required lung transplant.[7,9]

To conclude, PPFE is a new entity that has recently been included among the interstitial lung diseases, and it may be associated with systemic autoimmune diseases. This is why it is important to be aware of its clinical and radiological characteristics, suspecting it in patients with interstitial pulmonary involvement that is predominantly in the upper fields. It is also highly important to use a multidisciplinary approach to improve its detection and treatment.

☆ Please cite this article as: Morán Álvarez P, Bachiller-Corral J, Gorospe Sarasúa L, de la Puente Bujidos C. Fibroelastosis pleuroparenquimatosa: un nuevo tipo de neumonía intersticial asociada a conectivopatías. Reumatol Clin. 2020;16:513-514.