AB1110

AUTOINFLAMMATORY DISORDERS ARE COMMON IN PATIENTS WITH MYELODYSPLASTIC SYNDROME AND LINKED TO KARYOTYPE ABNORMALITY AND SOMATIC MUTATIONS STATUS AND A WORSE PROGNOSIS

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Objectives: We tested the hypothesis that autoinflammatory disease is an intrinsic feature of some MDS cases.

Background: Many autoinflammatory diseases are associated with mutations in myeloid lineage cells including neutrophils and macrophages. Myelodysplastic syndrome (MDS) is clinically linked to autoinflammatory diseases e.g. Sweets syndrome and NLRP3 inflammasome activation, is an intrinsic feature of some MDS cases.

Methods: 140 MDS patients referred to St. James’s University Hospital in Leeds during the period 2012-2018 were systematically and retrospectively recruited with karyotypes and somatic mutations status being performed. Patients with autoinflammation were classified as well-defined autoinflammatory disease or poorly defined “autoinflammatory state” (non-infection related elevated CRP over 10.0 mg/L in 5 consecutive times, taken at separate occasions) based on their final diagnosis and compared in terms of demographic, clinical, laboratory, cytogenetics charts, and outcomes.

Results: The average age was 77.08±11 years (median 79 years), with (n=91, 65.0%) male. 72 (51%) patients had an autoinflammatory state and were younger (75.15±11.23 versus 79.15±11.92, p<0.05), and had more frequent arthritis (n=25, 34.7%, versus n=12, 17.6%, p=0.0225), arthralgia (n=32, 44.4%, versus n=18, 26.5%, p=0.0271), skin rash (n=22, 30.6%, versus n=10, 14.7%, p=0.0261), pleuritis (16, 22.2%, versus n=3, 4.4%, p=0.0022). 26.3% of MDS patients with autoinflammatory state had a well-defined autoinflammatory disorder (neutrophilic dermatosis, and polymyalgia rheumatic being the commonest). Mutations affecting the transcription factors pathway (NPM1, RUNX1, BCR, WT1, TP53, MYD88) (OR 3.15 [95%CI 1.04-9.56], p=0.0426) and deletion of chromosome 5 (OR 3.37 [95%CI 1.01-11.22], p=0.0479) were associated with autoinflammation. Stratifying autoinflammatory state, deletion of chromosome 7 and chromosome 5 were found independent predictors for well-defined autoinflammatory disorder and poorly-defined autoinflammatory state, respectively. Furthermore, acute leukaemia transformation was more frequent in MDS patients with autoinflammatory status (n=25, 34.7%, versus n=8, 11.8%, p=0.0002).

Conclusion: Both well-defined and poorly defined autoinflammatory diseases are common in MDS. Transcription factors pathway somatic mutations and abnormal karyotype are associated with the risk of autoinflammation. Autoinflammation is linked to a worse prognosis which may be linked to the higher risk of malignant transformation.

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AB1111

RELATIONSHIP BETWEEN SERUM ADENOSINE DEAMINASE LEVELS AND DISEASE ACTIVITY IN AUTOIMMUNE HEPATITIS

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Background: Autoimmune hepatitis (AIH) is a chronic liver inflammation mediated by autoimmune response, characterized by serum autoantibodies, high immunoglobulin G (IgG), and interface hepatitis histology, which can develop into cirrhosis and liver failure. Adenosine deaminase (ADA) is an enzyme involved in purine metabolism, which can catalyze the irreversible conversion from deoxyadenosine to deoxyinosine. As adenosine is an important immunoregulatory factor in the physiological microenvironment, ADA plays an important role in regulating the balance of the human immune system. Previous studies have reported the associations between ADA and disease activity in a variety of autoimmune diseases, such as systemic lupus erythematosus[2], rheumatoid arthritis[3] and juvenile idiopathic arthritis[4].

Objectives: To investigate the relationship between serum adenosine deaminase levels and disease activity in patients with autoimmune hepatitis.

Methods: Thirty patients with autoimmune hepatitis and 30 healthy individuals were included in the study. We enrolled 30 patients who met the simplified criteria suggested by the International Autoimmune Hepatitis Group. All of the cases had been diagnosed with AIH between 2013-2018 at Northern Jiangsu People’s Hospital, Department of Gastroenterology or Rheumatology, and the diagnosis was confirmed by liver biopsy. Serum adenosine deaminase levels were measured by enzyme-coupled assay, and >25U/L were determined to be high level 25U/L.

Results: The mean serum ADA levels were significantly higher in AIH patients than those in healthy controls (29.13 ± 8.70 U/L vs 14.50 ± 4.63 U/L, P < 0.001). Serum ADA levels were >25 U/L in 70% AIH patients and in 0% healthy controls (P < 0.001). Mean serum ADA levels were significantly increased in each stage of disease activity; 28.32 ± 8.78 U/L for mild patients, 31.33 ± 4.23 U/L for moderate patients and
37.20 ± 7.36 U/L for severe patients (P = 0.03). Correlation analysis showed that there was a positive association between serum ADA levels and disease activity (r = 0.43, P = 0.02). Receiver operating characteristic analysis showed that 38.5 U/L was the optimum cut-off point of ADA level for severe disease activity (sensitivity 60%, specificity 92%, area under the curve: 0.81).

Conclusion: The evaluation of serum adenosine deaminase level in patients with autoimmune hepatitis should be considered a useful biomarker in the monitoring of their disease activity.

REFERENCES

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AB1112
DIAGNOSTIC DELAY AND DAMAGE OF POLISH ADULT PATIENTS AFFECTED BY HEREDITARY AUTOINFLAMMATORY SYNDROMES

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Background: Autoinflammatory diseases (AIDs) cover a spectrum of diseases, which lead to chronic or recurrent inflammation caused by activation of the innate immune system, typically in the absence of high titre autoantibodies.1 The most common monogenic AIDs are cryopyrin-associated periodic syndromes (CAPS), familial Mediterranean fever (FMF) and tumour necrosis factor receptor-associated periodic fever syndrome (TRAPS). In hereditary AIDs, chronic and recurrent inflammation can lead to both acute disease and irreversible damage.2

Objectives: To describe irreversible damage and diagnostic delay of AID in Polish adult patients (age≥18).

Methods: We reviewed the records of 11 Caucasian (2 women, 9 men) and one female patient with Middle Eastern ancestry followed in our center from Aug 2012 to Jan 2019. We analysed demographic features, diagnostic delay, previous diagnosis and organ damage.

Results: Eleven patients had documented variant mutation and AID diagnosis (6-TRAPS, 4-CAPS, 1-FMF). One patient with AA amyloidosis had negative genetic results. The mean age of the patients at the time of diagnosis was 31±4.5 years (0.1–33 years) and 33 years (16-62) at diagnosis. In all Caucasian patients diagnosis was established after the age of 18. Previous diagnosis was: JIA (2), AOS (2), UCTD (4), vasculitis (1), seronegative RA (1), MF (3 finally confirmed TRAPS) and allergy (3). Prior treatment included GCS (12/12), cDMARDs (7), antimalarials (6), colchicine (4), bDMARDS: tocilizumab-1, etanercept-2, adalimumab-1, CYC (2). After diagnosis 11 patients received IL-1 inhibitor, anakinra. Only one, 62 year old woman with TRAPS, did not need biological treatment. Only 3 TRAPS patients were free from damage accrual. We documented following damage categories: renal/amyloidosis (5 male cases), developmental (3 growth retardation), ear (severe hearing loss -3 CAPS cases), CINCA male patient at age 29 had multiple organ damage: neurological (epilepsy), severe hearing loss, severe ocular involvement (including optic nerve atrophy), joint restriction and deformity leading to complete physical disability. One MFM woman was advised elective abortion, one MWS had miscarriage. Two of 3 women had history of malignancy (one: breast cancer and ovarian cancer, and another thyroid cancer). No any mental retardation occurred. During follow up 2 male patients with extensive amyloidosis died despite anakinra treatment.

Conclusion: AID are misdiagnosed and have high risk of damage. We advocate the need for efforts in order to increase awareness of AID to reduce the diagnostic delay. The frequency of malignancy in AID should be addressed in future international collaborative studies.

REFERENCES

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AB1113
RELATION BETWEEN RESTRICTIVE PULMONARY FUNCTION TESTS AND ULTRASONOGRAPHIC CHANGES OF ASYMPTOMATIC ANTERIOR CHEST WALL JOINTS IN RHEUMATOID ARTHRITIS PATIENTS

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Background: Ultrasonography can detect different changes in anterior chest wall (ACW) joints in patients with Rheumatoid Arthritis (RA) even before being clinically manifested.1,2 Pulmonary functions may be affected during the course of RA due to interstitial lung problem or chest wall problems.2

Aims: Our study mainly demonstrate the interstitial pulmonary affection in RA but the chest wall joints is usually underestimated by the rheumatology community. Up to the best of our knowledge, there are no previous studies about the relationship between ultrasound detected subclinical changes in ACW and the pulmonary functions in RA patients.

Objectives: To detect the relation between ultrasonographic changes of asymptomatic ACW joints and pulmonary function tests (PFTs) in patients with RA.

Methods: The study included 44 subjects (22 RA and 22 control) in whom 88 sternoclavicular joints (SCJ) and 44 manubriosternal joints (MSJ) were studied. None of the participants had a history of respiratory complaints such as dyspnea, chronic cough, or chest pain. High resolution Computed Tomography (HRCT) was done on the chest to exclude interstitial lung problem that may affect chest expansion and PFTs. Ultrasound (US) assessments were performed to detect synovitis, erosions, ankylosis, osteophytes, or Doppler signals. Chest expansion was measured. PFTs was done and included measurement of the forced expiratory volume in 1 s (FEV1), forced vital capacity (FVC), and the ratio of forced expiratory volume in 1 s to the forced vital capacity(FEV1/FVC). In RA group, DAS28 and Health Assessment Questionnaire Disability Index (HAQDI) were evaluated.

Results: US detected subclinical changes of ACW joints in 74.2% of RA patient with significant difference between total US changes in RA (74.2%) and control (21.2%) (p<0.001). MSJ ankylosing and erosions were highly associated with limited chest expansion in RA group(p <0.001). PFTs were found to be restrictive in 13 RA patient (59.1%) with mean of FVC (65.5±5.6%), FEV1 (70.4±9.1%), FEV1/FVC (80±12.6) with significant difference to control with mean of FVC (93.6±7.2%), FEV1 (94.3±4.5%), FEV1/FVC (95±22.4). These restrictive PFTs were associated with SCJ synovitis (p<0.04), SCJ PD activity (p<0.04), SCJ erosions (p<0.001) and high activity with MSJ ankylosinig and erosions (p<0.001). All RA patients (100%) with MS ankylosinig and erosions SCJ PD activity by US had limited chest expansion and restrictive PFTs. Restrictive PFTs were associated also with limited chest expansion with mean of (2.3±0.5) with significant difference (p< 0.001) to non-restrictive PFTs in RA with mean of (5.2±1.4).

Conclusion: Our study demonstrated that ultrasonographic subclinical changes in ACW joints is associated with restrictive pattern of PFTs and limited chest expansion in RA patients.