cytomegalovirus infection and found it to be a cost-effective new treatment for cytomegalovirus infection that deserves further study.
Disclosure of Interest: None declared
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SAT0579 LOW DOSE IL-2 RESTORES IMBALANCE BETWEEN TH17 AND REGULATORY T CELLS IN PATIENTS WITH CONNECTIVE DISEASE COMBINED EBV/CMV VIREMIA

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Background: DMARDs are the most important medicine in treatment of autoimmune disease. However, excessive using DMARDs lead to decrease immune-function, which increasing opportunistic infection, such as EBV, CMV viremia. Recent study show the imbalance between T help cell 17 (Th17) and regulatory T cell (Treg cell) is a pivotal cause of autoimmune disease and correction of this imbalance to be a potential therapy. So whether low dose IL-2 restores the balance of Th17/Treg and improve immune function?
Objectives: To investigate the effect of low-dose IL-2 on Treg and effector lymphocyte subsets in patients with connective tissue disease (CTD) combined EBV or CMV viremia.
Methods: Clinical records of 70 CTD patients combined EBV or CMV viremia, hospitalized from May 2012 to January 2017 in the second Hospital of ShanXi medical university (Group infection), were analyzed. The group includes 21 patients who received rhIL-2 after infected CMV or EBV, and 12 continue receiving DMARDs. As control, we selected 70 health persons (Group health) whose age matched with group infection, 70 naïve CTD patients with no treatment (Group treatment-naïve), and 70 CTD without viremia patients having glucocorticoid and DMARDS medical history (Group Treatment-DMARDS). The two groups' underlying diseases are matched with the Group infection. The absolute numbers and proportions of peripheral lymphocytes (T cells, B cells, NK cells, the total number of the three cells, CD4+ T cells, CD8+ T cells), and CD4+ T cell subsets (Th1, Th2, Th17, Treg cells and Th1/Th2, Th17/Treg) were examined by flow cytometry.
Results: 1. The absolute count of Treg cells in the Group treatment-naïve was significantly low and Th17/Treg was notable increase compared with the Group health ($P<0.05$). The peripheral lymphocytes and Treg cells are notable low ($P<0.05$) and Th17/Treg was significantly increase ($P<0.05$) in the Group treatment-DMARDs compared with the Group treatment-naïve.
2. The peripheral lymphocytes, CD4+T cells subsets except Treg cells and Th1/Th2, Th17/Treg are significantly decrease in the Group infection compared with the Group treatment-DMARDs ($P<0.05$). While the absolute count of Treg cell was no different between the two groups.
3. After the course of rhIL-2 treatment, there were significantly increase of the peripheral lymphocytes and CD4+T cells subsets ($P<0.01$). Th17/Treg was significantly low after treatment. Compared with the patients who continue receiving DMARDs, all lymphocytes subsets had a rising trend in patients receiving rhIL-2 treatment.
Conclusions: The decrease of Treg cell number and imbalance of Th17/Treg may contribute to the pathogenesis of CTD. Excessive using glucocorticoid and DMARDs may augment this imbalance. On the other hand, these medicines decrease immune function, which leads to EBV and CMV viremia. Over the treatment of rhIL-2, immune function was improved and there was a more significant increase in the absolute count of Treg cells than Th17, and a consequently restore the balance of Th17/Treg.
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SAT0580 OSTEOARTICULAR TUBERCULOSIS: A RETROSPECTIVE STUDY OF 119 CASES

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Background: Bone and joint involvement in tuberculosis is uncommon. Wile osteoarticular tuberculosis most commonly occurs in the vertebral column, less frequently affected sites are the hip, knee and sacroiliac joints. The multifocal form of skeletal tuberculosis is exceptional.
Objectives: To evaluate the clinical and diagnostic features of osteoarticular tuberculosis.
Methods: We reviewed the files of all patients admitted to our department from 2000 to 2015 with a diagnosis of osteoarticular tuberculosis.
Results: We identified 119 patients (52 men, 67 female), having osteoarticular tuberculosis lesions. Mean age was 43 years [21–82]. Diagnosis delay was 4 months. Pain, low-grade fever and loss of weight were the most common presenting symptoms. All the patients consulted because of pain. The spine was involved in 81 patients. Peripheral osteoarticular tuberculosis was diagnostic in 38 cases, mainly in the knee (21 cases). Five patients have a multifocal involvement of the osteoarticular tuberculosis. The tuberculin skin test was positive in 75% of the cases. The diagnosis of spondylodiscitis was provided by CT-scan and /or magnetic resonance imaging. Paraspinal and epidural abscesses has been reported in 11 cases. Bacteriological and /or pathological diagnosis was made in 72 cases (60.5%). The Quantiferon test was done in 7 cases and was positive. The antibiotic treatment led to recovery in all cases. Tree patients have presented neurological signs.
Conclusions: Our results were similar to those of the literature. Elderly population was especially at risk. The idiagnosis can be delayed espacially in negative investigations. Therefore it is recommendable to do a very large screening tests especially in endemic areas.
Disclosure of Interest: None declared
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SAT0581 NON-TUBERCULOUS MYCOBACTERIAL (NTM) INFECTION IN PATIENTS WITH RHEUMATIC DISEASES: POSSIBLE IMPORTANCE OF PULMONARY BARRIER FUNCTION RATHER THAN SYSTEMIC IMMUNE STATE IN THE DEVELOPMENT AND EXACERBATION OF NTM INFECTION

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Objectives: To identify the risk factors of the development and exacerbation of NTM infection in patients with rheumatic diseases.
Methods: Among 7013 patients with rheumatic diseases visiting Toho University Ohashi Medical Center and Tokyo Medical Center, 20 patients were enrolled in this study by fulfilling the diagnostic criteria of NTM infection by The Japanese Society for Tuberculosis and The Japanese Respiratory Society, and being followed-up for more than 1 year. The medical records of enrolled patients were retrospectively reviewed.
Results: Eleven patients with rheumatoid arthritis, 4 patients with vasculitis, 3 patients with Sjögren's syndrome and 1 patient with dermatomyositis and systemic lupus erythematosus for each were enrolled in this study. *Mycobacterium avium* complex (MAC) was detected in 13 patients, *M. chelonae* in 2 patients, *M. abscessus* and *M.kansasii* in 1 patient each, and undetermined mycobacterium in 3 patients. Notably, bronchiectasis was the predominant pulmonary complication observed in 13 patients, and interstitial lung disease was observed in 5 patients. Although 7 patients experienced the exacerbation of NTM during the observation period, immunological state on NTM diagnosis including peripheral blood leukocyte (median 5.8×10^3 versus $7.0\times10^3/\mu L$; p=0.72), lymphocyte (median 1.3×10^3 versus $1.1\times10^3/\mu L$; p=0.10) and the serum IgG level (median 1379 mg/dL versus 1207 mg/dL; p=0.20) were within normal ranges and comparable between ever and never exacerbated patients, respectively, as well as the treatments for rheumatic diseases such as glucocorticoids and biological agents.
Conclusions: NTM infection in patients with rheumatic diseases develops based on the dysfunction of pulmonary barrier rather than the systemic immunosuppression.
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SAT0582 CHAGAS' DISEASE IN PATIENTS WITH AUTOIMMUNE DISEASES RECEIVING IMMUNOSUPPRESSIVE THERAPY. ANALYSIS OF 48 CASES

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Objectives: To analyze the main features at diagnosis and Chagas' Disease (CD) reactivation in patients with autoimmune diseases (AD) receiving immunosuppressive therapy (IT).
Methods: 13 patients with AD diagnosed with CD admitted to our Units between January to December 2016. In addition, we performed a systematic analysis of cases reported to date through a MEDLINE search. Inclusion criteria 1) adults with AD treat with iT (glucocorticoids [GC], disease-modifying anti rheumatic drugs [DMARDs] and biological drugs [BD]); 2) had confirmed or were positive for 2 serological test for CD. Reviews, experimental studies, duplicate publications, and abstracts were excluded.
Results: A total of 48 patients (13 from our Units and 35 from the literature search) fulfilled the inclusion criteria. There were 41 (85.4%) women, mean age of

43.8 years (range: 17–80). The main underlying disease was SLE in 22 (45.8%). Previous/current treatment at time CD diagnosis included GC >40mg/day in 27/48 (56.3%), DMARDs in 32/48 (66.7%) and 7 patients had previously received DB. CD was reactivated in 36 (75%) cases (mean 40.9 months [range: 0–252]) with the following patterns: high *T. cruzi* load by quantitative real-time polymerase chain reaction (qRTPCR) in 23 (63.8%) from which 20 (86.9%) had no clinical manifestation and 3 (13%) had panniculitis, the remaining 11 patients (30.5%) had positive XD with one of them had myositis, only one patient (2.7%) had fever. After a mean follow-up of 47 (range: 1–120) months, 4 patients with SLE died (8.3%), all had received GC>40mg/day, 3 had CD reactivation and all died due to SLE flare. No statistical differences were found with respect to CD diagnosis, use of GC, DMARDs, BD; in contrast, patients who had CD reactivation on therapy with GC >40mg/day showed higher cardiac involvement (83.3% vs 43.5%, p=0.03 OR 6.50 CI95% 1.15–36.57) where the time of immunosuppression in this group was lower in those who died median 0.53 (IQR 0.46–0.53) vs 3.00 (IQR 1.26–78.00) months, p=0.04. Patients with SLE and CD reactivation showed a higher risk of death (18.8% vs 0.0%, p=0.04, OR: 1.23, CI95% 0.97–1.57). Survival rate of the entire cohort was 91.5%. The poorest survival rates were observed in who had CD reactivation (log rank p=0.037).

Conclusions: Reactivation was presented mainly as high *T. cruzi* load by qRTPCR without clinical manifestation of CD. Use GC>40mg/day showed a higher risk of CD reactivation with cardiac involvement. Considering this data it's reasonable to screen serologic and molecular tests before to start treatment with immunosuppressive drugs.

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Back pain, mechanical musculoskeletal problems, local soft tissue disorders

SAT0583 LATERAL EPICONDYLITIS: WHAT IS NEW? DIAGNOSTIC, IMAGING AND TREATMENT. A SYSTEMATIC LITERATURE REVIEW

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Background: Lateral epicondylitis or tennis elbow is an extremely frequent disease, secondary to intratendinous degeneration of the common carpi extensor tendon. However, diagnosis and therapeutic management are still a challenge for the rheumatologist.

Objectives: To determine the available evidence regarding the diagnostic, imaging and treatment of epicondylitis.

Methods: A systematic review literature was performed.using PUBMED. Only controlled trials, systematic literature reviews and meta-analysis were selected (Jan 1990 to May 2016). The MESH search words were " Tennis elbow "," Lateral elbow tendinopathy ", " Diagnostic imaging" and" Therapeutics ".

Results: 1314 potential articles were screened; 7 articles of clinical diagnosis, 21 of imaging and 18 of treatment were finally selected.

Diagnostic: No controlled trials were found about the diagnosis of the epicondylitis. The clinical tests employed in the retrieved clinical trials were based upon the experts' recommendation: lateral epicondyle palpation, resisted extension of the carpe and resisted extension of the 3rd and 4th fingers.

Imaging: Among the 21 articles identified, 1 article concerning plain Xray, 1 about scintigraphy, 10 of US and 10 of MRI were selected. One clinical trial, found plain Xrays were not helpful for the initial diagnosis. Ultrasound was found to be a sensitive (64–100%) and specific (36–100%) tool for the diagnosis, in one meta-analysis. Ten studies, within a systematic review, showed MRI was reported to be as sensitive (90–100%) as the ultrasound, with a greater specificity (83–100%). In addition, MRI showed better reliability (0.41–0.53 vs 0.73–1.00). Also, the two techniques showed a good correlation between the observed lesions and symptoms, severity and involvement of other structures. On the contrary, no data was found to support the use of imaging tests for follow-up.

Treatment: Among the 18 articles, 9 articles (within 4 systematic review and 5 randomized clinical trials) about pharmacological treatment, 10 about the non-pharmacologic approach and 1 about surgery were selected. Corticoids injections were found to be effective in one meta-analysis at short-term and preferably for acute epicondylitis (Pain reduction at 1–3 weeks =1.18 (95% CI 0.27–2.09), 4–8 =1.30 (95% CI 0.55–2.04), 12–24 =-0.38 (95% CI -0.85–0.08). Similar results were found for NSAIDs. Five prospective randomized clinical trials, showed braces and carpal extension splints were reported to improve pain at rest and during exercice, in short term. Physical therapy was reported to be efficacious in pain and function too, in a systematic review. Therapies like rich platelet plasma injections, autologous serum and botulinim toxin showed weak evidence.

Conclusions: No high quality trials for epicondylitis management were found in this systematic review. The diagnostic was based upon clinical presentation and physical exam. Ultrasounds and MRI seem to play a role on imaging diagnosis but not in follow-up. Corticoids injections and NSAIDs are effective in short term. Other studies are needed to evaluate other therapeutic modalities.

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SAT0584 THE ROLE OF MRI INTERPRETATION IN PATIENTS WITH ROTATOR CUFF DISEASE

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Background: Shoulder pain is a common musculoskeletal complaint, roughly equal in incidence to neck pain (1). The shoulder pain syndrome has a prevalence to 47% in general population (2) and an incidence to 87–100.000 persons per year, an increasing indicator in the latest years (3). The identified etiology of painful shoulder were: rotator cuff tendinopathies (85%), impingement syndrome (74%), acromioclavicular joint involvement (24%), adhesive capsulitis (15%) si radiated pain (7%) (4). MRI imaging of rotator cuff disease, features of impingement are the techniques of choice at most institutions (5,6).

For all physicians, the shoulder is a complex joint, with difficulty in clinical and MRI examination. The type of therapy (medical, physical or surgical) can be estabilished according with MRI conclusion, but sometimes this was a debate between physicians.

Objectives: To assess the concordance between two radiologists in interpretation of the same shoulder MRI in patients with rotator cuff disease.

Methods: Our prospective observational study included 51 patients (median age 57±9.9 years, 70.6% female) with nontraumatic shoulder pain. The assessment had included a clinical examination of the shoulder for inclusion criterias, lab tests for exclusion an inflammatory diseases and shoulder MRI with purpose to pathological diagnose of cuff rotator disease. Two experienced radiologists independently, blindly and retrospectively interpreted the MRI images. One of the radiologist had more MRI trainnings and do daily musculoskeletal MRI images. We have analized the each MRI changes, as rotator cuff tendinopathies (tendinitis, tendinosis, tears), bicipital tendinopathy and other changes (subacromial bursitis, impingement syndrome, retractile capsulitis). Statistical analysis was performed using SPSS-18 and a p-value <0.05 was considered for statistical significance.

Results: There was identified a statistically significant difference between readers. There was a poor to moderate concordance (Cohen's Kappa$<$0,40, p$<$0.05) between MRI interpretations for supraspinos tendinopathy, subacromial bursitis, capsulitis, but a good agreement between for subscapular tendinosis (accuracy=98%, Kappa=0,79, p=0.000) and perfect compatibility (accuracy=100%, Kappa=1, p=0,000) for terres minor tendinitis. The poorest concordance between readers was in impingement syndrome (compatibility=55%, kappa=0,11, p$>$0,05).

Conclusions: The MRI examination is significant in rotator cuff disease only when the radiologist is overtrained for shoulder, otherwise the technique is unuseful and doubtful in clinical practice.

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SAT0585 IS IT SAFE TO PERFORM JOINT PUNCTURES IN PATIENTS TREATED WITH DABIGATRAN?

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Background: The introduction of new oral anticoagulants provides us with a new therapeutic intervention and secondary prevention opportunity in stroke patients previously not well controlled with acenocumarol due to not compliance or other issues.

As with other anticoagulants or even antiplatelet agents, the attending doctor may hesitate to perform a joint puncture in patients receiving such treatments.

Objectives: The purpose of this study is to describe the four-year cumulative experience of joint and peri-articular punctures in patients receiving Dabigatran, a new oral anticoagulant recently introduced in our country.

Methods: We performed a systematic review of the records of patients who underwent a knee joint aspiration or periarticular shoulder joint puncture for diagnostic or therapeutic purposes and who were under treatment with dabigatran between the years 2012 and 2016.

For this purpose we conducted an search for electronic records within that period, using the search terms: "infiltration", "arthrocentesis" or "joint puncture" and "shoulder" or "knee" and "dabigatran" or it's brand names.