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Editorial

Insights from the 11th International Congress on Autoimmunity, Lisbon, Portugal, 2018

The International Congress on Autoimmunity is a biannual scientific congress and represents the major event in the calendar of the Autoimmunity world. This meeting is known to provide a unique opportunity for the exchange of scientific, clinical and patient-focused information on a global basis.

It is a great pleasure to introduce this special issue of "Clinical Immunology", based on selected studies presented at the 11th International Congress on Autoimmunity, which took place in Lisbon, Portugal, from 16 to 20 May 2018. This special issue highlights a broad spectrum of emerging issues in the field of autoimmune diseases, both through original studies, reviews and case reports.

As of today, anti-citrullinated proteins/peptides (ACPA) antibodies are considered the most important serological marker for the diagnosis of rheumatoid arthritis (RA) [1,2]. However, these markers can be found only in 70% of RA patients and, therefore, efforts are continually being done to increase the accuracy of such tests [1,2]. Darawshe et al. [3], in their study, showed that synthetic peptides containing common citrullinated epitopes may have an added value over the commercially available kits for the diagnosis of RA. Therefore, more research is needed to produce better diagnostic kits that may contribute to more accurate and probably earlier diagnosis of RA.

Abnormal expressions of pro- and anti-inflammatory molecules have been reported to lead to dysregulation in the gut innate and adaptive immunity, and, recently, several studies about inflammatory bowel disease (IBD) have attempted to identify novel molecules that may be used as potential therapeutic targets [4,5]. Deutschmann et al. [6] presented their experience with the 18-glycosylhydrolase family member Chitinase-3-like protein 1 (CHI3L1). This molecule was shown to be associated with IBD by affecting different components of the innate and adaptive immune response such as enhanced bacterial adhesion and invasion or upregulated expression in distinct cell types including immune cells [6].

Systemic sclerosis (SSc) is a major medical condition with high mortality and morbidity and its treatment represents one of the most challenging issues for rheumatologists [7,8]. Campochiaro et al. [9] have presented their study on the role of tryptophan metabolism in SSc showing that tryptophan levels in SSc patients were significantly lower compared to healthy controls and SSc patients with a diffuse disease had lower tryptophan levels compared to those with limited diseases. Additionally, it was found that tryptophan/kynurenine ratio is very high in SSc disease supporting an activated kynurenine pathway in the disease phenotype. On the same disease but from the therapeutic standpoint, Pedro Gomez et al. [10] have presented the complexity of the management of SSc patients. In detail, they have shown that intravenous immunoglobulin (IVIG) can be a good option and efficacious and safe therapy in SSc mainly for the muscle, skin and joint manifestations as well as a useful tool for corticosteroid tapering.

Adolescence is a time of transition between childhood and adulthood, which represents a critical age and a period of life with specific health and developmental needs and rights. Indeed, systemic autoimmune diseases such as systemic lupus erythematosus (SLE) or juvenile idiopathic arthritis (JIA), may affect youths during the transition. Guffroy et al. [11] have presented in a very elegant way the challenges in the management and follow-up of adolescents with autoimmune diseases including therapeutic adherence as a main issue. Therefore, it is extremely important to increase the awareness among physicians of the needs and difficulties of this age category to promote transition programs for better management and outcome of these patients.

Paraneoplastic neurological syndrome (PNS) is characterized by a heterogeneous group of disorders that affect the central and peripheral neuromuscular system and are normally tumour-associated [12]. Seluk et al. [13] conducted a retrospective study on 4010 PNS-associated autoantibodies tests that were performed in patients with unexplained neuropsychiatric symptoms to assess their role in the prediction of cancer. Cancer diagnosis was made in 55.9% of the patients, and an association between autoantibodies titer and the presence of cancer was found.

Celiac disease incidence is increasing due to several factors including genetic accumulations of susceptible gene mutations, and environmental changes such as the transition to Western diet [14,15]. Enzymes are commonly used in industrial food processing like microbial transglutaminase (mTg). Lerner et al. [16] have summarized the potential role of mTg in the pathogenesis of celiac disease showing that it can increase the risk for gluten sensitive populations.

Tkachenko et al. [17] presented a very interesting and challenging case of a 32-year old man who had episodes of relapsing hemolytic anaemia, pancytopenia and multiple thromboses with positive direct and indirect antiglobulin test result, lupus anticoagulant and medium titer of anti-beta-2-glycoprotein 1 and anti-cardiolipin antibodies. A diagnosis of Evans syndrome, SLE and antiphospholipid syndrome (APS) were made, and a partial improvement was achieved under the treatment of steroids, cyclosporin A, and, later, with the use of rituximab and cyclophosphamide. Bortezomib in combination with cyclosporine A and plasma exchange led to improvement in the haematological parameters with no evidence of relapse of hemolytic crisis or thrombosis during the 1-year follow-up.

Meta-analyses of genetic polymorphisms associated with diseases represent a popular technique to confirm the robustness of different investigations, pooling together various studies and increasing their statistical power. On the other hand, this is a recent approach that has been made more sophisticated in recent years, thanks to the introduction of new statistical tools. This has led to a re-analysis of previously published meta-analyses. Lee KS and colleagues [18] have contributed to the first review of meta-analyses concerning an autoimmune

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disorder, namely SLE.

Several inflammatory, proteolytic, angiogenic and bone-associated factors play a role in the development of autoimmune, accelerated atherosclerosis in rheumatic diseases [19,20]. Balogh et al. [21] have summarized their experience with biomarkers of vascular pathology in rheumatic diseases reporting that no gold standard biomarker has so far been identified and probably the multi-biomarker approach is preferable. As such, more studies are required in this field.

Lung involvement in autoimmune diseases is common and contributes significantly to the morbidity and mortality of these diseases [22,23]. Vivero et al. [24] conducted a study reporting the characteristics and treatment strategies of 381 patients diagnosed with autoimmune interstitial lung diseases (ILD) in 25 centres of Argentina, Colombia, and Uruguay. They showed that 85.1% of patients were classified as ILD related to connective tissue disorder and the common treatment strategy was the combination of steroids and cyclophosphamide.

Sarcoidosis is a classic autoimmune disease with a common lung involvement that may contribute to the deterioration of lung function and the eventual development of end-stage pulmonary fibrosis [25,26]. Tiosano et al. [27] have presented their elegant study reporting that sarcoidosis-associated pulmonary hypertension is linked with a poor prognosis and a proper screening method may assess whether early identification and treatment improve life expectancy.

Xia et al. [28] have summarized the knowledge on the heterogeneity of T-cell receptor (TCR) repertoire found in several autoimmune diseases showing that dominant TCR clonotypes may help to discover new disease biomarkers and expand the strategies of immune-targeted therapy.

To conclude, the International Congress of Autoimmunity held in Lisbon in May 2018 was a fascinating and successful event thank to the several hundreds of researchers and clinicians from different areas reporting their studies in the major topics of pathogenesis, diagnosis, and treatment of systemic and organ-specific autoimmune diseases. Indeed, sharing these ideas and findings can lead to a better understanding of the complex mechanisms leading to the onset and perpetuation of autoimmunity. It can be, as well, the perfect opportunity to establish new collaborations and networks.

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