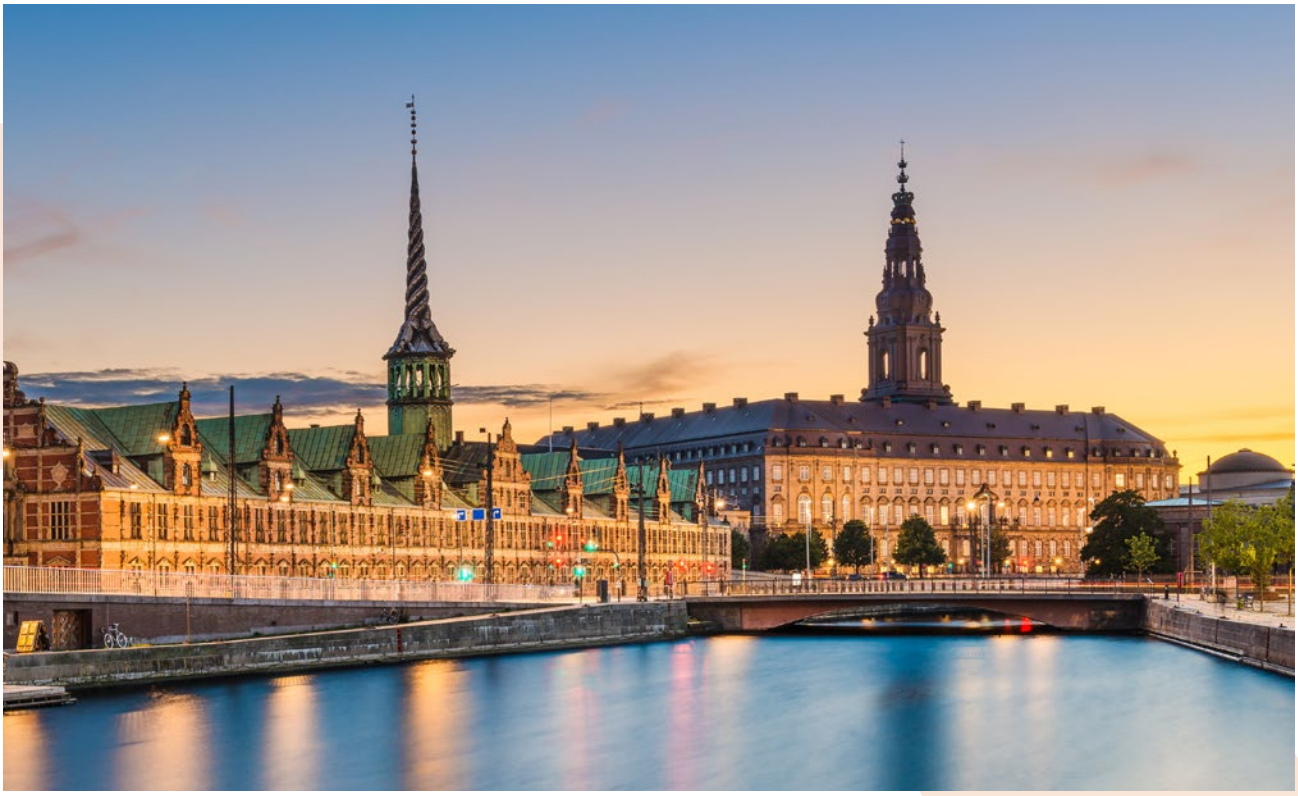
Abstract Highlights

The following highlights spotlight several fascinating and timely abstracts presented at the European Alliance of Associations for Rheumatology (EULAR) 2022 Congress, covering topics such as autoimmune rheumatic diseases and severe COVID-19 outcomes and lumbar mechanical tractions in radicular pain of discus origin.



Tocilizumab as an Alternative Treatment for Systematic Sclerosis

INTERSTITIAL lung disease (ILD) is the most frequent presentation of systemic sclerosis (SSc), a low-prevalence autoimmune disease with generally heterogenous presentation. SSc also frequently presents with skin involvement and is often treated with classic immunosuppressive therapy used in fibrosis treatment. However, in 2021 the U.S. Food and Drug Administration (FDA) approved the first biologic therapy for ILD-SSc, tocilizumab (TCZ), based on the outcomes from two clinical trials.

Researchers from the Clinical University Hospital, Santiago de Compostela, Spain, aimed to assess the efficacy of TCZ in SSC with both ILD and skin involvement. The study was based on a literature review using Medline, Embase, Cochrane Library, and the Web of Science databases, including clinical trials, observational studies, and case series. A random-effects model meta-analysis was carried out to evaluate TCZ efficacy where comparable measures were found. This method identified 1,036 articles with 13 studies eligible for review.

The effect of TCZ in SSc skin involvement was measured by the modified Rodnan Skin Score (mRSS) and the results found a non-significant improvement in mRSS and a change in mean mRSS (odds ratio: 1.22 [0.72–2.01]; p=0.43 and standardised mean difference: -0.69 [-1.48–0.10]; p=0.09, respectively). However, for ILD-SSc, a significant worsening of forced vital capacity was reported in patients treated with TCZ (odds ratio: 0.45 [0.23-0.86]; p=0.02).

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The researchers concluded from this review and meta-analysis that TCZ could delay the worsening of ILD-SSc and should be considered as a therapeutic alternative to classical immunosuppressive therapy. The authors emphasised the necessity of addition research in this topic for a better understanding of the disease and the implication of TCZ in other organ impairment. ●

Autoimmune Rheumatic Diseases and Severe COVID-19 Outcomes

THE SURGE of COVID-19 has impacted the population globally. However, individuals with autoimmune rheumatic diseases (ARD) could have an increased risk of developing severe outcomes of the disease.

Researchers from Vancouver, Canada, carried out a population-based cohort study, aiming to assess the risk of severe COVID-19 outcomes in patients with ARDs compared with a matched population without ARDs. The factors considered included the risk of COVID-19 hospitalisation, intensive care unit (ICU) admission, and mortality with a primary International Classification of Diseases (ICD) code, indicating COVID-19. The researchers used datasets from British Columbia, Canada, from February 2020 to August 2021, and obtained data from patients with ARDs including rheumatoid arthritis, psoriasis/psoriatic arthritis, and systemic lupus erythematosus.

The selected individuals were population matched in a 1:5 ratio to a general population with a positive COVID-19 test, based on age, sex, health authority, and the time of COVID-19 contraction. The study also used a conditional logistic regression model to adjust for several factors including socioeconomic status, hypertension, rural address, and Charlson Comorbidity Index (CCI) before carrying out multiple COVID-19 tests.

Results showed that patients with ARDs had a significantly increased risk of COVID-19-related hospitalisation, with an adjusted odds ratio (aOR) of 1.03, with the group at the greatest risk being individuals with adult systemic vasculitides. For patients with ARDs, the risk of ICU admission revealed an aOR of 1.30, indicating an increased risk. Patients with ankylosing spondylitis had the greatest risk within the ARD population of being admitted to ICU. The risk of COVID-19-specific mortality also presented with a significant increase within the ARD group, with an aOR of 1.24. Individuals with the greatest risk were also those with ankylosing spondylitis.

> **"Early diagnosis and treatment of patients within this group should also be prioritised by healthcare professionals."**

Overall, this study shows a clear correlation between ARDs and the risk of severe COVID-19 outcomes, with this impact varying between specific diseases. The study authors recommended strategies to reduce this risk, including the severe acute respiratory syndrome coronavirus 2 booster vaccination. Early diagnosis and treatment of patients within this group should also be prioritised by healthcare professionals. ●

Lumbar Mechanical Traction Proves Superior

LUMBOSCIATIC pain is currently treated with non-steroidal anti-inflammatory drugs, analgesics, and physical therapy. Lumbar mechanical tractions do not have a clearly identified place in the treatment of lumbosciatic pain of discal origin, and literature studies have failed to show significant efficiency in lumbar mechanical tractions. E. Bernhard, Rheumatology Unit, Centre Hospitalier Universitaire (CHU) de Reims, Maison Blanche Hospital, France, presented the findings of a monocentric interventional prospective study, which aimed to demonstrate the superiority of lumbar mechanical traction against standard treatment alone, at EULAR 2022.

From 2013 to 2021, Bernhard and colleagues recruited 428 patients with lumboradicular pain with concordant discal hernia, but who were also naïve of lumbar surgery. They were separated into two groups depending on how they would be treated. One was the medical group (n=210), where patients received the standard treatment and a minimum of two epidural infiltrations. The other was the traction group (n=209), where patients received the standard treatment along with at least three lumbar mechanical traction sessions.

The amount of pain that the patients were in was tested at baseline, 1 month, and 3 months. Treatment was considered effective if a patient's pain decreased by 25% from baseline to 1 month. Pain was assessed through an analogue scale on lumbar and radicular localisation, with the superiority analysis performed by the chi-square test.

> **"Lumbar mechanical tractions do not have a clearly identified place in the treatment of lumbosciatic pain of discal origin"**

Of the 428 patients recruited for this randomised controlled study, 11 patients had missing data; however, 205 patients (49.52%) presented with right lumboradiculalgia and 209 (50.48%) with left, which were primarily in L5 (172 [41.0%]) or S1 (207 [50.0%]).

Before the 1-month follow-up, 20 patients (5%) had to be operated on. However, a total of 212 patients had a reduction in pain at 1 month: 117 (31%) in the traction group and 95 (25%) in the medical group. Therefore, patients who were also treated with lumbar mechanical traction had a significant reduction in pain (p=0.036) compared with those who received standard treatment alone. ●

T Cell Response After COVID-19 Vaccine in Systemic Autoimmune Disorders

RESEARCHERS have discovered that T cell response in patients with systemic autoimmune disorders currently receiving early rituximab treatment or belimumab is unimpaired by COVID-19 vaccination.

Patients diagnosed with autoimmune disorders have an increased risk compared with the general population of contracting infection and of developing serious complications. Infections in this patient group can be reactivated and the disease itself can become worsened in consequence. Vaccination has long been seen as the main tool to prevent infectious diseases, and it must be stressed that vaccination is an important measure that is both safe and beneficial for this patient cohort.

However, drugs that suppress the immune system and are used to treat rheumatic diseases may impair the patient response to vaccines. This is particularly true of those drugs which directly target B or T cells.

The study, led by G. De Marchi, Division of Rheumatology, Department of Medicine, Udine, Italy, aimed to explore B and T cell-mediated immune response to messanger RNA vaccination against COVID-19 in patients with systemic autoimmune diseases, including systemic connective tissue diseases or vasculitis. The study population included 28 patients who were either early or continuously treated with B cell-targeting therapies, rituximab (n=11) or belimumab (n=17), and 13 controls matched for age and sex. No patients presented antibodies to severe acute respiratory syndrome coronavirus 2 related to prior viral contact and all tested negative at each monthly control.

All study participants were given messanger RNA vaccines, and were tested between 3 and 4 weeks following complete vaccination. All patients on rituximab began vaccination within 5 months from their last infusion and all but one of these were B cell depleted. Detectable anti-severe acute respiratory syndrome coronavirus 2 antibodies were found in one of 11 patients on rituximab and 16 of 17 patients receiving belimumab. Anti-receptor binding domain antibodies were discovered in all but one patient in the belimumab subgroup.

> **"It must be stressed that vaccination is an important measure which is both safe and beneficial for this patient cohort."**

The study concluded that therapies that target B cells do not prevent the benefits of vaccination against COVID-19, as cellular immunity can occur even in the absence of circulating B cells. The immunogenicity following COVID-19 vaccination in patients with systemic autoimmune disorders who receive belimumab is supported. However, those patients who receive a lower vaccine response may remain at higher risk of infection. ●