As many as 40% of patients with systemic lupus erythematosus (SLE) develop kidney disease, which remains a major cause of morbidity, according to Dr. Antonis Fanouriakis of Attikon University Hospital, Athens, and colleagues.

To address this challenge and update clinicians, patients, and others on the latest issues in lupus nephritis treatment, EULAR and the European Renal Association–European Dialysis and Transplant Association (EULAR/ERA-EDTA) have updated their recommendations for lupus nephritis management.

Dr. Fanouriakis will present the new guidelines in the Thursday, 4 June, abstract session “Advances in treating SLE and lupus nephritis.” The recommendations were published online ahead of print in Annals of the Rheumatic Diseases.

The researchers followed the EULAR standardised operating procedures for the publication of treatment recommendations. They used Delphi-based methodology to develop 15 questions for a systematic literature review on which to base the recommendations.

Key changes from the 2012 recommendations include ones for treatment targets, use of glucocorticoids and calcineurin inhibitors, and management of end-stage kidney disease (ESKD).

The target of therapy is a complete response with proteinuria less than 0.5-0.7 g/24 h and “[near-] normal glomerular filtration rate by 12 months,” according to an abstract for the session. This can be extended in patients with baseline nephrotic-range proteinuria, the abstract says.

The recommendations also call for long-term treatment with hydroxychloroquine with regular ophthalmologic monitoring.

For patients with active proliferative lupus nephritis, the psychological impact that COVID-19 has on patients with rheumatic and musculoskeletal diseases (RMDs) in addition to an analysis of emerging data on RMDs and risk factors for COVID-19 will be the focus of presentations at today’s live-streamed COVID-19 PARE session.

Prof. Pedro M. Machado, an associate professor and consultant in rheumatology and muscle diseases at University College London and the National Hospital for Neurology and Neurosurgery, also in London, will explore potential risk factors that have been identified in an early analysis of 600 patients with RMDs who have contracted COVID-19 in his presentation, “What do COVID-19 data tell us so far regarding risk factors?”

Rinie Geenen, PhD, a psychologist at Utrecht (Netherlands) University, will follow that with his presentation, “The psychological impact of COVID-19 on inflammatory rheumatic diseases and how to deal with...”
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**Insights into Seropositive Rheumatoid Arthritis: A Path Towards Precision Medicine**

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Professor Gerd R. Burmester, MD
Berlin, Germany

**RA Is a Heterogeneous Disease:**
How Can We Use Biomarkers to Define Subtypes?
Professor Ennio Giulio Favalli, MD
Milan, Italy

**The Pathogenic Mechanism of Autoantibodies and the Shared Epitope**
Professor Anca Catrina, MD, PhD
Solna, Sweden

**The Case for a Precision Medicine Approach to RA Treatment Decisions**
Dr. Gordon Lam, MD, FACR
Charlotte, United States

Date of preparation: April 2020
Mercury code: 427DE205D00847-01
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Researchers share outcomes, survey data, and reliable information

Continued from page 1

it,” with cospeaker Tim Koppert.

The national organisations of People with Arthritis and Rheumatism in Europe (PARE) share information via the EULAR standing committee of PARE, with the PARE programme at EULAR 2020 attracting a broad community of practitioners and representatives of patient organisations.

Prof. Machado noted that data on COVID-19 risks associated with underlying comorbidities have been lacking. “Importantly, patients with RMDs should be strongly advised to comply with all preventive and control measures prescribed by health authorities in their countries,” he said.

COVID-19 outcomes in patients with RMDs

The findings so far are that taking oral steroids at a dose of 10 mg or more is associated with an increased odds of hospitalisation, but other therapies, including hydroxychloroquine, methotrexate, biologics, and Janus kinase inhibitors, were not. He added, “We found that taking TNF [tumour necrosis factor] inhibitors reduced the odds of hospitalisation for COVID-19.”

Risks for people aged 65 years and older with RMDs and comorbidities such as cardiovascular disease and diabetes mirror those of the general population with similar comorbidities, Prof. Machado noted.

The data are derived from the EULAR COVID-19 Database, a European paediatric and adult database in collaboration with the Paediatric Rheumatology European Society (PReS), that monitors and reports COVID-19 outcomes of patients with RMDs. “This is a European effort working closely with the COVID-19 Global Rheumatology Alliance,” Prof. Machado said. “We analysed combined worldwide data.”

This data set, representing 40 countries, comprises the largest collection of RMD patients who had COVID-19, he said. “This study demonstrated that most individuals with rheumatologic diseases or on immunosuppressive therapies recover from COVID-19, which should provide some reassurance to patients.”

Results support EULAR guidance that suggests continuing antirheumatic medications in the absence of SARS-CoV-2 infection or exposure, he said.

Psychological effects of COVID-19

Prof. Geenen will present findings on the psychological effects of COVID-19 on “perfectly matched” patients with inflammatory disease and healthy subjects. The data were gathered during March and April — the two peak months for the outbreak — in the Netherlands. “We observed that about one out of every two patients with inflammatory disease are worried vs. about one of every four healthy people,” he said.

However, the stress levels of both groups of patients during the COVID-19 pandemic seemed to be similar, and among patients with RMDs, levels of mental well-being are virtually unchanged from data collected 2 years ago. “Their mental well-being is generally lower than healthy people,” Prof. Geenen said, “but it’s not lower now in times of COVID-19.”

Prof. Geenen noted that Mr. Koppert, the cospeaker, of Leiden (Netherlands) University, will provide context on the relationship between worry and stress.

A heightened sense of worry during the pandemic can be somewhat protective for people with RMDs. “Fear and worry are normal reactions to a threat,” Prof. Geenen said. “Worry about contamination is real at the moment, and that is good because it makes people more cautious and helps to prevent them from becoming contaminated.”

Prof. Geenen and Mr. Koppert also will share four specific tips for helping RMD patients cope with the coronavirus. These will include encouraging patients to “invest in mental resilience,” such as maintaining social contacts online and seeking professional help if needed. Another tip is to prevent too much worry and anxiety by seeking the social support of loved ones and by accessing fact-based information rather than media that peddles anxiety-provoking opinions.

Other presentations during the COVID-19 PARE session will include a COVID-19 update by Prof. John D. Isaacs, professor of rheumatology at Newcastle University and consultant rheumatologist at Newcastle upon Tyne Hospitals NHS Trust in the United Kingdom; a presentation titled “Where do I find reliable COVID-19 information?” by Souzi Makri, of the Cyprus League Against Rheumatism; and a talk on PARE Organisations’ best practices by Elsa Mateus, PhD, president of the Portuguese League Against Rheumatic Diseases.

Prof. Machado disclosed consulting/speaker’s fees from AbbVie, Bristol-Myers Squibb, Celgene, Eli Lilly, Janssen, Merck Sharpe & Dohme, Novartis, Pfizer, Roche, and UCB. Prof. Geenen disclosed consulting fees from Sanofi Genzyme.

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Adults who receive a new diagnosis of knee or hip osteoarthritis are more likely in the ensuing years to have consultations for conditions including depression, cardiovascular disease, back pain, diabetes, and osteoporosis than are people without an OA diagnosis, based on health care registry data from Sweden.

Osteoarthritis is associated with increased comorbidity, but knowledge of the temporal relationships between OA and comorbidities is limited,” according to Prof. Martin Englund, of Lund (Sweden) University, who will describe these findings in the “Osteoarthritis” abstract session on 4 June.

Prof. Englund and his colleagues identified adults aged 35 years and older in the Skåne region of Sweden who had at least one diagnosis of knee or hip OA between 1 Jan., 2010, and 31 Dec., 2017, in order to examine the risk of consulting for comorbidities in this patient population, compared to individuals without OA.

The study population included 548,681 individuals who had at least one health care visit but no doctor-diagnosed hip or knee OA; of these, 36,465 consulted for knee OA and 14,477 consulted for hip OA. The average age of individuals in the study was 57 years for those with no OA, 62 years for those with incident knee OA, and 65 years for those with incident for hip OA. Approximately half of the patients were women.

Overall, patients with incident knee or hip OA had an increased risk of consulting for depression, cardiovascular disease, back pain, and osteoporosis, with increased hazard ratios ranging from 8% to 61%, compared to those without an OA diagnosis. The researchers adjusted for factors including residential area, annual income, years of education, marital status, age, and gender.

“People with either knee or hip OA have increased risk of consulting for diabetes, however the 95% confidence interval excluded 1 only for knee OA,” the researchers wrote. The results support previous findings for cardiovascular diseases and diabetes, but also suggest the risk of diabetes is mainly associated with knee OA, they concluded.

The study is important because “There is still much lack of knowledge of the risk of comorbidities in osteoarthritis patients,” Prof. Englund said in an interview. “Considering the high prevalence of osteoarthritis in most parts of the world, such information is needed for better patient care,” he said.

Prof. Englund noted that he and his colleagues were not surprised by their findings. “We pretty much expected we would pick up increased risks for most of these conditions in this large data set,” he said. “There is a general notion that osteoarthritis patients have other issues than just a painful joint or joints, often more so than individuals in general,” he explained.

Prof. Englund emphasised that he and his colleagues’ recommendation to clinicians is to regularly assess osteoarthritis patients for other conditions. “We recommend clinicians to evaluate the ‘whole’ patient when seeing an osteoarthritis patient in daily practice. In particular, be aware of signs or symptoms of undiagnosed cardiovascular diseases, as well as consider diabetes screening,” he said.

As for additional research, “we need better understanding and prevention of potential common risk factors such as overweight and obesity, as well as better insights into potential direct causal pathways between osteoarthritis and other diseases that are not mediated by common risk factors,” he said.

The study was supported by FOREUM. Prof. Englund disclosed serving as a consultant for Pfizer. Several other authors disclosed financial relationships with pharmaceutical companies.
Following the science in SLE: from guidelines to practice
A symposium fully organised and sponsored by GSK at the EULAR e-congress 2020

Thursday 4th June 2020, 17:30–18:45

Agenda

Welcome and introduction
Professor Andreas Schwarting, Germany (Chair)

Driving consensus on treatment goals: why would you not follow the guidelines?
Professor George Bertsias, Greece

Designed for Lupus: reviewing the pathway for early intervention with biologics
Professor Andreas Schwarting, Germany

Where next for Lupus? New strategies for a new decade
Professor Andrea Doria, Italy

Audience Q&A
All faculty

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The majority of patients with nonradiographic axial spondyloarthritis (nr-axSpA) who discontinued etanercept experienced disease flare within 40 weeks of treatment withdrawal, according to findings being presented in an oral abstract presentation on 4 June.

The RE-EMBARK trial, conducted by Dr. Filip van den Bosch of the Ghent (Belgium) University Hospital and his coinvestigators, found that only 25% of patients with nr-axSpA maintained etanercept-free inactive disease for 40 weeks following etanercept discontinuation. Inactive disease during that period was defined as having an Ankylosing Spondylitis Disease Activity Score based on C-reactive protein (ASDAS-CRP) of less than 1.3. Dr. van den Bosch will explain these findings in the abstract session titled, “Spondyloarthritis treatment.”

In contrast, “data from the comparator EMBARK trial suggested that less than 25% of patients receiving continuous etanercept treatment over 40 weeks experienced flare,” wrote Dr. van den Bosch and his colleagues.

We assessed “the proportion of patients with inactive disease after [the first 24 weeks] who experienced disease flare within 40 weeks of etanercept withdrawal and [estimated] time to flare following etanercept withdrawal,” he explained. Disease flares were defined by an ASDAS of 2.1 or greater using erythrocyte sedimentation rate (ESR).

The open-label, phase 4 study included 209 patients with active nr-axSpA who received etanercept at a dose of 50 mg once weekly plus NSAID during the first 24 weeks. Prior to receiving etanercept, study patients had an inadequate response to two or more NSAIDs while being maintained on a stable dose of one NSAID for 2 weeks or longer.

At week 24, patients with inactive disease stopped etanercept for 40 weeks or less. Etanercept was restarted for 12 weeks in patients who experienced disease flare during the withdrawal period. In the analysis, the researchers measured the proportion of patients experiencing flare within a given time period.

We also compared “data between RE-EMBARK and the EMBARK trial of patients with nr-axSpA who met RE-EMBARK entry criteria (achieved inactive disease after 24 weeks of etanercept treatment) and continued treatment for a further 40 weeks [or less],” they wrote.

The majority of study patients were white (89%), with a mean age of 33 years; 54% were male. Among 209 patients in the first 24 weeks of treatment, 119 (57%) moved into the withdrawal phase.

After analysis, the researchers found that the probability of patients experiencing one or more flares rose from 22% at week 4 of the withdrawal phase to 67% at week 40.

Overall, 50% of patients experienced flare within 16 weeks (95% confidence interval, 13-24 weeks), and 25% of patients in the withdrawal phase maintained etanercept-free inactive disease for 40 weeks.

“Cox proportional hazard model analysis showed an 85% relative risk reduction of experiencing flare during [the withdrawal phase] in patients with inactive disease who continued etanercept treatment vs. those who discontinued,” they reported.

During the 12-week etanercept restart period for patients who had a disease flare during the withdrawal phase of the study, 62% reached inactive disease, and 50% did so within 5 weeks, they further reported.

Dr. van den Bosch and his colleagues observed a trend of clinical improvement in the initial 24-week treatment period, followed by worsening in the withdrawal phase, and subsequent improvement again in the 12-week period of etanercept reinstatement, which was also observed in quality of life, measures of joint damage, and other clinical measures; no unanticipated safety signals were observed.

The study was funded by Pfizer. Dr. van den Bosch and his colleagues reported financial relationships with several pharmaceutical companies, including Pfizer.
Interventions targeting serum urate (SU) level alone are unlikely to lower the risk of type 2 diabetes, according to new research to be presented on 4 June looking at the possible causal role between gout or SU level and type 2 diabetes, whose relationship has been unclear.

Gout is the most common form of inflammatory arthritis. Incidence and prevalence are on the rise in many Western countries, including Canada, China, New Zealand, the United Kingdom, and the United States. Many people with gout or hyperuricaemia also have diabetes. “Population-based observational studies have reported positive associations between SU or gout and the risk of type 2 diabetes, but these reports may be due to residual confounding by shared risk factors such as obesity or consumption of sugar-sweetened beverages, which are difficult to control for,” said first author Natalie McCormick, PhD, a postdoctoral research fellow at Harvard Medical School, Boston, who will present the study during the abstract session titled “Crystals and bones: A selection of best abstracts.”

To estimate the causal effects of SU and gout on glycaemic traits and the risk of type 2 diabetes, Dr. McCormick and her colleagues from Massachusetts General Hospital, Boston, and Arthritis Research Canada launched a two-sample Mendelian randomisation analysis. The method uses genetic variation to help overcome confounding by lifestyle and environmental factors such as diet.

Researchers drew data from three large genome-wide association studies – the Global Urate Genetics Consortium, the DIAbetes Genetics Replication And Meta-analysis consortium, and the

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First-year glucocorticoid use remains high in sJIA despite biologic availability

Although biologic therapies have altered the treatment of systemic juvenile idiopathic arthritis (sJIA), an analysis of registries from 10 different countries in Europe and North America has found that practitioners continue to use a high percentage of glucocorticoids in these young patients even as use of biologics increases.

Prof. Kimme Hyrich of the University of Manchester (United Kingdom), will report on these findings 4 June in a Clinical Science session called “Making the therapeutic approach to Still’s disease in children and adults rational.”

“This is one of the first international clinical consortiums of this nature in pediatric rheumatology, which in itself is a tremendous achievement,” Prof. Hyrich said. “This is an exciting and positive development for the specialty, which will set us in a good position to build on this and continue to try to understand and improve outcomes for children and young people with sJIA.”

The results will show that, across all registries, nearly three-quarters of all patients were prescribed steroids in their first year after diagnosis, but that those levels seemed to decrease afterwards. “As treatments are rapidly evolving for the management of sJIA, it is important to understand if and how treatment approaches differ across healthcare jurisdictions,” Prof. Hyrich said. “Understanding and learning from any differences can provide evidence to continue to improve treatment of this condition.”

Because sJIA is a rare condition, even national studies report small numbers of cases, which Prof. Hyrich acknowledged, preclude any major comparisons between countries. However, she noted the patterns across the registries studied were relatively consistent. “We did notice that, across almost all studies, the use of biologic therapies increased over the study period and the split between interleukin-1 inhibitors and IL-6 inhibitors was also relatively consistent,” she said.

The 10 registries included data on 1,149 patients. The study compared data before and after 2012 to assess changes in prescribing patterns over time.

“These data show that, even within an era of biologic therapies, glucocorticoid use is still high in this population, with most studies finding at least 50% of children had received steroid therapy in the first year following diagnosis,” Prof. Hyrich said.

The analysis did not attempt to find a correlation between glucocorticoid use and outcomes. “What is noted is that, across the board, outcomes were generally good at 12 months and in most studies, with fewer than 50% of children still receiving glucocorticoids,” she said – findings that she called “both positive” and showing “room for improvement.” The analysis will note that more study is needed on the long-term outcomes of patients with sJIA.

“These findings will help in the design of future studies, she noted. “What is striking is how relatively homogeneous the treatment patterns were, within the limitations of small numbers in some studies.”

“This sets us in an excellent position to move towards combined analysis across all countries, such that further outcomes (such as treatment effectiveness or even safety) can start to be explored,” Prof. Hyrich said. “The source of data will still have to be considered and allowed for in the analysis, as there may be other factors related to where someone lives which may influence outcomes, but these are achievable with well-planned analyses.”

Prof. Hyrich reported financial relationships with AbbVie, Bristol-Myers Squibb, Pfizer, and UCB. Coauthors reported relationships with Genentech, Novartis, Pfizer, and UCB.

Meta-Analyses of Glucose and Insulin-related traits Consortium – to extract a set of single nucleotide polymorphisms (SNPs) associated with SU levels and gout risk and examine their impact on these diabetes-related outcomes.

Using inverse variance weighted meta-analysis methods, they analysed SNPs associated with SU levels (n = 28) and gout (n = 6) for associations with type 2 diabetes and three glycemic traits: insulin resistance, fasting insulin levels, and haemoglobin A1c. They also examined two variants mapping to the SLC2A9 gene, which encodes the GLUT9 transporter (for glucose and urate).

Among the glycaemic outcomes, the research team found no significant effects of genetically determined gout or SU levels. They did note a strong association between the two genetic variants in the SLC2A9 gene with serum urate and gout. However, neither was associated with any of the glycaemic traits or type 2 diabetes. Across all analyses, the estimated effects of SU and gout were not statistically significant.

“We are now looking at these associations in the opposite direction: whether genetically determined type 2 diabetes or genetically determined levels of glycaemic traits may directly impact SU levels or gout risk,” Dr. McCormick said.

Dr. McCormick had no relevant disclosures. One coauthor reported receiving research support from Horizon and Ironwood and consulting fees from Horizon, Ironwood, Kowa, Selecta, Takeda, and Vaxart.
Tocilizumab was associated with a reduction of vascular inflammation in patients with giant cell arteritis (GCA), according to the findings of a study led by Dr. Kaitlin A. Quinn, of the National Institutes of Health in Bethesda, USA.

“There were two fairly recent randomised, controlled trials that demonstrated that tocilizumab was effective as a steroid-sparing agent in GCA, but in those trials response to treatment was defined by improvement in clinical and laboratory-based assessments of disease activity,” Dr. Quinn said in an interview. “Vascular imaging was not systematically studied as an outcome measure. We wanted to look at the effects of tocilizumab on vascular inflammation as measured by PET scans.”

She will present her findings today in the “Vasculitis” abstract session.

To assess the direct impact of tocilizumab on vascular inflammation beyond its demonstrated clinical efficacy, Dr. Quinn and colleagues launched an observational study of 25 patients with GCA. The patients underwent 18F-fluorodeoxyglucose (FDG) PET scans prior to starting tocilizumab, with subsequent imaging every 6 months. A summary score — the PET Vascular Activity Score (PETVAS) — was calculated on a 0- to 27-point scale through visual assessment of FDG uptake relative to liver uptake on a 0- to 3-point scale in nine arterial territories.

To determine whether tocilizumab was associated with change in PET activity independent of concomitant glucocorticoid treatment, PET scan data were analyzed in a subset of 10 patients with GCA who were later in the disease course. These patients had only mild clinical relapses and were treated with tocilizumab alone without substantial glucocorticoids.

“We wanted to look at patients who were treated with no steroids or a low dose of steroids, to assess whether that was confounding the improvement we were seeing and whether there was improvement from tocilizumab alone or if we were seeing the steroid effect,” Dr. Quinn said. Patients who achieved remission and therefore stopped taking tocilizumab underwent a final FDG-PET scan 6 months after discontinuation, upon which PET activity while on tocilizumab was compared with PET activity after discontinuation.

The 25 patients — all of whom began the study with clinically active disease — had a median PETVAS of 24.0 at baseline, with continued reduction demonstrated throughout the first (PETVAS 21) and second (PETVAS 14) years of treatment with tocilizumab.

“The comparable rate of improvement over the first and second years of treatment suggested to us that treatment duration longer than a year may be beneficial, at least for some patients,” Dr. Quinn said.

All told, median PETVAS improved from 24.0 to 18.5 (P < .01) from baseline to most recent follow-up visit. The patients who received only a low dose of glucocorticoids still saw a similar reduction in PETVAS (from 24.0 to 19.0). Six patients achieved remission during the study and discontinued tocilizumab accordingly, but five of the six showed

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Determine long-term therapeutic strategy for optimal outcomes

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recommendations call for initial treatment with mycophenolate mofetil (2-3 g/day, or mycophenolic acid at equivalent dose) or low-dose intravenous cyclophosphamide (500 mg x 6 biweekly doses), both combined with glucocorticoids (pulses of intravenous methylprednisolone, then oral prednisone 0.3-0.5 mg/kg per day).

Alternative treatments for patients with nephrotic-range proteinuria and adverse prognostic factors include a combination of mycophenolate mofetil and calcineurin inhibitors (especially tacrolimus), as well as high-dose cyclophosphamide.

The recommendations advise on subsequent long-term maintenance treatment with mycophenolate mofetil or azathioprine with no or low-dose (less than 7.5 mg/day) glucocorticoids.

“The choice of agent depends on the initial regimen and plans for pregnancy,” the researchers wrote. “In nonresponding disease, switch of induction regimens or rituximab are recommended. In pure membranous [lupus nephritis] with nephrotic-range proteinuria or proteinuria greater than 1 g/24 h despite renin-angiotensin-aldosterone blockade, [mycophenolate mofetil] in combination with glucocorticoids is preferred.”

Patients should be regularly assessed for both renal and extra-renal disease activity, with repeat kidney biopsy considered in cases of incomplete response or nephritic flares, the authors said. Additionally, comorbidities should be managed throughout a patient’s lifespan.

For patients with ESKD, the recommendations favor transplantation as the preferred kidney replacement option, “with immunosuppression guided by transplant protocols and/or extra-renal manifestations,” the researchers said.

“Since the publication of the first set of joint EULAR/ERA-EDTA recommendations in 2012, new evidence has emerged in lupus nephritis, including the use of calcineurin inhibitors and ‘multitarget’ therapy, disease monitoring and treatment targets,” Dr. Fanouriakis said in an interview. “To this end, it was deemed appropriate to update these recommendations at this time.”

Dr. Fanouriakis noted that the COVID-19 pandemic has imposed “unprecedented changes” in the practice of medicine.

“Lupus nephritis is a condition which requires a multidisciplinary approach involving physicians of different specialties, while at the same time these patients may carry an increased risk for infections, owing both to their disease and medications,” he said. “To this end, face-to-face examinations for diagnosis, treatment, and regular patient monitoring should be performed in a protected setting; alternatively, if telemedicine services are to be applied, this should try to involve different medical disciplines,” including rheumatology and nephrology.

The take-home message for clinicians about the recommendations is that “optimal outcomes in lupus nephritis are more a matter of a long-term therapeutic strategy, rather than individual drugs,” Dr. Fanouriakis explained. “An early response in proteinuria (within 12 months) is the best prognostic factor for a favourable outcome, nevertheless complete response may require more time in patients with significant baseline proteinuria.”

A repeat kidney biopsy should be considered prior to labeling a patient as ‘refractory’ or in case of nephritic flares,” he said.

The next steps for research in lupus nephritis management include “aspects of diagnosis and patient stratification towards personalised treatment, prognostic biomarkers, novel synthetic and biologic treatments, as well as optimisation of clinical trial design,” Dr. Fanouriakis noted.

Dr. Fanouriakis disclosed relationships with companies including Amgen and Enorasis. He is a paid speaker for Genesis Pharma, Mylan, and Roche.

**The long-term maintenance “agent depends on the initial regimen and plans for pregnancy.”**

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worsening PET activity in scans at least 6 months after discontinuation and two patients experienced clinical relapse.

“We believe this study reinforces the need to validate the utility of PET scans in the context of randomised clinical trials in GCA. That hasn’t been systematically incorporated in previous trials,” Dr. Quinn said. “In patients with clinically active disease where other medications are being looked at, PET could be another outcome measure to establish if the treatment is effective.

“Also, in patients who are doing well and in remission, PET could be used as a measure to predict relapse and how long patients should stay on medication,” she added. “As we saw in our study, when tocilizumab was stopped, some patients had an increase in PET activity and subsequently relapsed.”

The authors declared no conflicts of interest.
German researchers have produced a vascularised, three-dimensional, in vitro model of human skin that successfully replicated all human skin layers and could be converted to fibrotic skin that itself was responsive to treatment with the proven antifibrotic drug nintedanib.

“Experimental models of fibrosis are essential to provide a conceptual understanding of the pathogenesis of [fibrotic disorders such as systemic sclerosis] and to test antifibrotic drugs,” according to Dr. Alexandru-Emil Matei, of Friedrich-Alexander University Erlangen-Nürnberg (Germany), and colleagues. Dr. Matei, the first author of the report, will present the findings on 4 June in the Basic and Translational Science session, “Creating in vitro patients – How to best model disease.”

The researchers set out to create the new human skin model to understand fibrosis pathogenesis because current in vivo models rely on species that are phylogenetically distant from humans, and in vitro human cell culture systems used to model human skin fibrosis are limited by oversimplification in an excessively stiff two-dimensional environment, they said.

The researchers developed their model by seeding human endothelial cells, fibroblasts, and keratinocytes on a decellularised porcine extracellular matrix with perfusable vascular structure, culturing them for 14 days before incubation with transforming growth factor-beta (TGF-beta) for another 14 days to induce fibrotic transformation. The researchers tested the model by exposing it to the established antifibrotic drug nintedanib, and evaluated the response using capillary Western immunoassays, quantitative polymerase chain reaction, histology, and immunostaining.

“Exposure to TGF-beta led to the fibrotic transformation of the skin equivalents, with activated TGF-beta downstream pathways, increased fibroblast-to-myofibroblast transition, and excessive deposition of extracellular matrix,” the researchers wrote. Treating the models with nintedanib ameliorated the fibrotic transformation, they said.

Although more research is needed, the results suggest that vascularised skin equivalents are capable of reproducing the effects of fibrosis on all skin layers after exposure to TGF-beta, the researchers said. “These skin models can be used as a platform for evaluation of antifibrotic drugs in a setting with high relevance for human disease.”

The research was recently published in Annals of the Rheumatic Diseases (2019;78:1686-92).

Ten of the 12 authors of the study, including Dr. Matei, had no disclosures. One reported financial relationships with Boehringer Ingelheim, and the other served on speaker’s bureaus for eight pharmaceutical companies.
Self-management app may positively impact the health of osteoarthritis patients

Use of a self-management smartphone app may positively impact the health of older patients with self-reported knee and/or hip OA, according to findings being presented in a morning HPR abstract session on 4 June.

The randomised, controlled trial, conducted by Health Professionals in Rheumatology abstract award winner Tim Pelle of Sint Maartenskliniek, Nijmegen, Netherlands, and coinvestigators, found that use of the dr. Bart smartphone app had positive effects on activities of daily living, pain, and symptoms for individuals with knee and/or hip OA aged 50 years and older.

Despite observing these positive effects, the same benefit was not observed for the primary outcome of the study, the number of knee/hip OA–related secondary healthcare consultations, compared with usual care in the previous 6 months.

“We were slightly disappointed, because we hypothesised that dr. Bart app would result in better self-management which we assumed to result in change in healthcare utilisation patterns; for example, optimal use of primary care services and less use of secondary healthcare services,” Mr. Pelle said in an interview.

Self-management is of most importance in the nonsurgical treatment of patients with knee and/or hip OA, and modern technologies offer the potential to support self-management 24/7, he said.

The randomised study included 427 participants with self-reported knee and/or hip OA aged 50 years and older. Study

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Every year, the Edgar Stene Prize is awarded to the person with a rheumatic or musculoskeletal disease (RMD) submitting the best essay describing his or her individual experience of living with their condition.

Stene Prize 2020 topic

Being a person with a rheumatic or musculoskeletal disease – How my voluntary work benefits me
participants were randomly assigned to either the dr. Bart app (n = 214) or usual care (n = 213) for a total of 6 months. Study subjects completed online questionnaires at the start of the intervention and at 3 and 6 months’ follow-up. Various secondary clinical endpoints were also evaluated, including functional limitations, pain, symptoms, self-management behaviour, and others.

The majority of study participants were women (72%), with a mean age of 62.1 (range, ±7.3) years, and most had symptoms primarily in their knee(s) (73%).

After analysis, the investigators found that app use did not significantly lower the number of secondary healthcare consultations, compared with usual care (incidence rate ratio, 1.20; 95% confidence interval, 0.67-2.19).

In contrast, a positive overall treatment effect was observed for some clinical outcomes, including activities of daily living (IRR, 2.9; 95% CI, 0.2-5.6), pain (IRR, 3.5; 95% CI, 0.9-6.0), and symptoms (IRR, 2.6; 95% CI, 0.4-4.9) among participants in the dr. Bart group versus usual care. Nonsignificant differences between the groups were observed for health-related quality of life, self-management behaviour, illness perceptions, and physical activity.

“Use of the dr. Bart app results in small but positive effects on symptoms, pain, and activities of daily living,” he said.

Overall, the findings suggest that the self-management app may positively impact the health of individuals with knee/hip OA, the researchers explained.

“[No] future studies are planned yet, but we are currently performing an economic evaluation of the dr. Bart app,” he noted.

“I [also] have a poster presentation about the use of the dr. Bart app and its relation to healthcare utilisation and clinical outcomes at this EULAR congress as well,” he added. The poster (abstract FRI0629-HPR) is part of Friday’s posters on “HPR interventions (educational, physical, social, and psychological).”

EULAR offers bursaries for scientific training

Every spring and autumn, EULAR awards up to 10 training bursaries to applicants from European countries for clinical or laboratory work (3-6 months) in a clinical or research unit of another European country. The objective is to improve the standard of research and care and to foster collaboration across rheumatologic, clinical, and research centres in Europe.

The amount of the bursary depends on the length of stay and equals 1,000 euros for travel expenses plus 1,000 euros per month of stay (maximum of 7,000 euros).

The next application deadline is 30 September 2020.

Bursaries will not be made if the applicant is already abroad in training.

Only persons who work predominantly in the field of rheumatology are eligible for scientific training bursaries; past recipients are not eligible for a second scientific training bursary. The age of the candidate should not exceed 40 years.

Recipients are asked to submit both a midterm report as well as a final report to the EULAR Secretariat, focusing on the results they have achieved during their training.

Based on their final report, participants may be given the chance to present their results in an abstract presentation at the next EULAR congress.

Applicants should submit an application together with the following documents:

- Curriculum vitae with date of birth and list of publications (if any).
- Outline of the clinical or laboratory project to be undertaken (maximum four pages including references).
- Written confirmation of acceptance from the host hospital or research institute (signed by the head of department), indicating the tentative time frame of the training period.

Application details are available at www.eular.org. Send your complete application in electronic form to the EULAR Secretariat at education@eular.org.

Mr. Pelle’s recorded presentation of his study will first be presented in Thursday’s “Innovative care” abstract session.

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EULAR Congress News

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GSK Supported Studies

GSK is committed to supporting high standard ethical research conducted by external sponsors that aligns with our scientific areas of interest and further improves the understanding of our products and related disease areas to enhance patient care. The sponsor of the study is an external investigator, healthcare institution or medical network seeking support from GSK to conduct the study. There are two different ways GSK can provide support:

1. **Investigator Sponsored Studies (ISS)** are research entirely designed and managed by an external investigator. The support provided by GSK can be in the form of funding, product or both.

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**2021 Supported studies Request For Proposals**

GSK is accepting proposals

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<tr>
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<tr>
<td>Submission of proposal by Investigators</td>
<td>1 February 2021</td>
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<tr>
<td>Committee Review / Selection by GSK</td>
<td>February &amp; March 2021</td>
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<tr>
<td>Communication to Investigators by GSK</td>
<td>29 March 2021</td>
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<tr>
<td>Submission of full Protocol and ICF by Investigators</td>
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GSK is committed to deliver the above review timelines, however, the review process might take longer for certain proposals.

**Areas of Research Interest**

- Controlling early lupus disease activity contributing to minimising long term organ damage accrual
- Optimisation of the decision making steps and interventions informing treatment decisions for SLE management (e.g. patient reported outcomes)
- Use of belimumab as add-on therapy (without immunosuppressants) and impact on outcomes
- BLyS inhibition with focus on diseases consistent with the belimumab anti-BLyS mechanism of action
- Use of anti-BLyS in combination with anti-CD20 in lupus and other mechanism of action compatible diseases
- Belimumab in lupus and other autoimmune diseases
- Lupus patient perception and opinion about their treatment and life (with or without belimumab)
- Association of biomarkers with patient stratification or clinical outcomes in lupus
- Use of belimumab in lupus in clinical practice
- Lupus disease state

GSK provides access to anonymized patient-level data for research that can advance science or improve patient care.

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