outcomes may be worse and that children in these countries face the additional burdens of poverty, socio-political instability and communicable diseases.^{3,4}

Objectives: To review the current situation and challenges faced by the children in less resourced countries with rheumatic diseases and those who provide medical care for them, and to explore opportunities that will drive the global development of paediatric rheumatology to the benefit of all children with rheumatic diseases.

Methods: A thorough review of published literature and gaps in knowledge on the epidemiology and outcomes of childhood rheumatic diseases from less resourced countries. A review of current and planned global initiatives to improve Paediatric Rheumatology care in less resourced countries.

Results: Despite increasing emerging data on paediatric rheumatic diseases from less resourced countries, data on paediatric rheumatic diseases from less resourced countries are sparse. Paediatric rheumatology services in most countries remain inadequate or non-existent to serve the needs of the population, despite encouraging growth in some areas. Improvements in healthcare systems in these countries offer opportunities for the growth of paediatric rheumatology care. Greater genetic diversity and different disease profiles offer opportunities for the advancement of genetic and environmental influences on rheumatic diseases.

Conclusion: An organised effort from the paediatric rheumatology global community can play an important role in the development of education, networks, services and research capabilities that could lead to increased scientific growth and clinical benefits for all children with rheumatic diseases, regardless of their geographical or socio economic position.

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SP0021 DELIVERING FUTURE GLOBAL RESEARCH CHALLENGES IN PAEDIATRIC RHEUMATOLOGY

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The treatment of pediatric rheumatic diseases has improved tremendously in the last 20 years thanks to appropriate legislative initiatives, the existence of very large collaborative networks and the availability of new potent medications. In particular there has been a tremendous improvement in a sizable proportion of patients with juvenile idiopathic arthritis (JIA) with over 3500 children enrolled in trials with registrative purposes. For JIA now the tendency is to concentrate on oral therapies and on drugs targeting specific JIA categories. Also in juvenile systemic lupus erythematosus (SLE) the childhood counterpart of SLE there are several potential targets to be tested in children. In addition the field of paediatric rheumatology has provided an excellent example of large scale academic studies which, through the Paediatric Rheumatology International Trials Organisation (PRINTO) have enrolled over 38,000 children from over 60 countries. Further improvement in future years will stem from a better definition of the paediatric disease entities, the discovery of laboratory and imaging biomarkers that could help the tuning of therapy, a smoother implementation of future clinical trials, a more standardized link between academia (clinical and basic science), regulatory authorities, learned societies such as the Pediatric Rheumatology European Society (PRES) and family organisations for the planning of future trials. This lecture will present a general overview and a perspective for the future (mainly academic) work to align clinical data collection with basic researchers, PRES, and family associations in order to foster and facilitate drug evaluation in pediatric rheumatic diseases as well as academic research.

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SP0022 PROJECT ABSTRACT 2: EMERGE – HELPING DELIVER OUR WORLDWIDE GOALS

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EMERGE (EMERging Rheumatologist and rEsearchers) is a new group of young physicians and scientists from across the globe with a shared interest and passion for pediatric rheumatology. Amid numerous differences in education, research opportunities and healthcare systems across countries, the overarching aim of the group is to work closely together towards the same goal of providing a best possible care for children with rheumatic diseases. With the support of the Pediatric Rheumatology European Society (PreS), the group has created several compelling initiatives which could help the creation of a new generation of professionals who can deliver this goal. Therefore, one the paramount initiative of the group is the PreS EMERGE fellowship. This unique program enables clinicians and scientist from all over the world to come to the established pediatric rheumatology centers in Europe, receive clinical or translational research training, perform a short study and build a support network readily available after returning to their surroundings. Next, the Peer Review Mentoring Program has been recently started in order to provide a first structured peer review training in the field of pediatric rheumatology. The prevailing intention of this initiative is to improve the quality of published researches by education of the future peer reviewers. The important initiative of the group is also the organization of the Young Investigators Meeting (YIM), that takes place every year before the PreS congress. This meeting gathers many clinicians and scientist from all continents and provides them with an excellent opportunity of presenting their basic and clinical discoveries and compelling cases to their peers and "not so senior" faculty. Besides, the group is involved in the organization of many educational courses where world-leading experts are conveying their experience and knowledge of a particular topic. To succeed in these initiatives, the EMERGE group is working closely with other similar groups, such as CARRA young investigators from North America and EMEU-NET group of young adult rheumatologist from Europe. Moreover, the group has a firm collaboration with Pediatric Task Force Global Musculoskeletal Health, a group dedicated to raising the awareness and improving access to right care for children with musculoskeletal diseases, and ENCA, a network of national associations working with children and young people with pediatric rheumatic diseases. Finally, in order to spread information about these initiatives and to attract new members, the group is actively using social media platforms, such as Facebook (<https://www.facebook.com/PreSEMERGE/>), Twitter (@PreSEMERGE), and bi-monthly newsletters (emerge.pres@gmail.com).

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WEDNESDAY, 12 JUNE 2019

14:15:00 – 15:45:00

Crystal I

SP0023 INTRODUCTORY TALK ON CRYSTAL ANALYSIS

Anne-Kathrin Tausche. University Clinic Dresden, Rheumatology, Dresden, Germany

Rheumatologists are used to do the arthrocentesis to diagnose (and treat) patients with joint effusions. Crystal arthropathies are the most common inflammatory joint diseases. So the prompt detection of (micro-) crystals in joint fluid by microscopic analysis is of outstanding importance to make the right diagnosis of the very common disease gout or CPPD-arthritis (1). Since many years the EULAR facilitates practical courses in microscopy of crystals to start the training of rheumatologists in that helpful technique. During the practical skill course the trainee will be shown how to properly prepare a slide of SF, analyze the preparation with ordinary light, simple and compensated microscope and learn to discriminate urate from CPPD-crystals^{2,3}.

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WEDNESDAY, 12 JUNE 2019

14:15:00 – 15:45:00

Capillaroscopy I

SP0024 STANDARDISATION OF NORMAL VERSUS ABNORMAL AND PATHOLOGICAL CAPILLAROSCOPIC IMAGES

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Abstract: Medical doctors frequently get patients with Raynaud's phenomenon (RP), a frequent symptom in the general population, referred. The importance of distinguishing normal capillaroscopic findings from (pathognomonic) abnormal (pathological) findings (scleroderma pattern), lies in the fact that this distinction allows the differentiation between a primary RP (not connected to any connective tissue disease [CTD]) from a secondary RP due to systemic sclerosis (SSc) and diseases of the scleroderma spectrum.

What is normal in primary RP?

A normal capillaroscopic pattern, by qualitative assessment, is characterized by a homogeneous distribution of hairpin shaped capillaries as a "comb-like structure", with a density of >7capillaries per mm, with a normal dimension and absence of large hemorrhages. Yet, there exists a wide intra- and inter- individual variety in a normal population which will be discussed in this session.

What is pathognomonic abnormal in patients with RP due to SSc?

Patients with the RP who have an underlying clinically recognizable (= with skin involvement) SSc show a very characteristic combination of capillary abnormalities in the nailfold, which can easily be assessed through qualitative assessment (= pattern recognition). Maricq et al. described last century, with the widefield technique (magnification X12–14) the scleroderma pattern. This pathognomonic combination contains the following: a striking widening of all three segments of the

capillary loop (arterial, venous and intermediate), loss of capillaries and disorganization of the nailfold capillary bed. Many branched "bushy" capillaries may also be observed.

In 2000, Cutolo et al. qualitatively assessed the nailfolds of an SSc cohort with patients fulfilling the American College of Rheumatology (ACR) criteria for SSc with the nailfold videocapillaroscopic (NVC) technique (magnification X200). According to the different proportions of the hallmark parameters of the scleroderma pattern (giants, capillary loss, hemorrhages and abnormal shapes: (neo) angiogenesis, Cutolo et al. defined three patterns "early", "active" and "late".

The central role of capillaroscopy in distinction between a primary and secondary RP due to SSc is reflected by the fact that capillaroscopy is one of the new ACR/EULAR criteria for classifying a patient as having SSc.

In this lecture the standard "FAST TRACK" recognition system of the EULAR Study Group on Microcirculation in Rheumatic Diseases to discern scleroderma patterns from non-scleroderma patterns will be taught to the attendees.

Suggested further reading:

Smith V, et al. *Rheumatology* (Oxford). 2016;55(5):883-90.

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SP0025 RELIABILITY IN THE LAST 10 YEARS: CAPILLAROSCOPIC CHARACTERISTICS VERSUS INSTRUMENTAL DETECTION

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Background: With nailfold capillaroscopy there are different aspects of reliability to consider, including reliability of qualitative image grading (e.g. 'early', 'active' and 'late') and also of semi-quantitative and quantitative measures including capillary density, apical width and presence of giant capillaries. The reliability of image acquisition (i.e. test-retest reliability) is especially important if nailfold capillaroscopic parameters are to be used in longitudinal studies (e.g. clinical trials) which involve acquiring repeat images over time. Lastly when assessing reliability, it is important to recognise that the nailfold capillaries cannot always be clearly seen, and cannot therefore be evaluated.

Objectives: To highlight the different aspects of reliability relating to nailfold capillaroscopy and how these have been addressed in studies over the last 10 years.

Methods: Review of recent studies

Results: 1. Intra-observer reliability has been shown in several studies to be higher than inter-observer.

2. Assessment of 'evaluability' varies between observers and therefore also needs to be taken into account when assessing reliability.

3. Subject to evaluability, certain parameters demonstrate high intra- and inter-observer reliabilities. Reliability differs across different capillaroscopic parameters.

Conclusion: Recent studies examining reliability of capillaroscopy suggest that certain parameters, including image grade, capillary density and apex width have high intra- and inter-observer reliabilities (subject to nailfold image evaluability, which remains a major challenge). Standardised training is likely to improve reliability.

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