

Biennial report

Study Groups

Title of the study group: European Consensus Finding Study Group on autoantibodies (ECFSG)

Study Group Leader's name: Johan Rönnelid

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Summary of last year's activities

The aim of the ECFSG is to achieve consensus in how laboratory results in the field of autoantibody diagnostics are evaluated: a laboratory result should be the same, wherever the result is obtained. This is achieved by arranging an interactive consensus exercise and discussion forum. After having evaluated tentative samples the ECFSG steering board meet every year in the fall to decide on the agenda and suitable samples, 10 sera are distributed to 44 European laboratories in the beginning of December every year. The samples are tested blindly for a variety of autoantibodies, Results are collected and analysed centrally by steering board members. The final evaluation is presented and discussed at a study group meeting open to all participants in conjunction with the European Workshop for Rheumatology Research (EWRR) every year. Results are discussed in the context of the patients' clinical pictures and the use of specific assays, including performance of specific company-produced assay kits. For that reason, attendance to the study group meetings are restricted to scientific participants, excluding representatives from assay manufacturers.

Forty European laboratories involved in serological diagnosis of rheumatic diseases participated in the serum round 2016/2017 and 39 labs in 2017/2018, respectively.

The study group has worked in this way since it was founded in 1988, and the participation is highly evaluated by many participants as an evaluation of quality of their analyses, and many regularly request certificates of participation and attendance.

Since 2014, the ECFSG has adopted the complementary agenda to participate in the international evaluation of new reference reagents for autoantibodies. Sera/plasma samples which are tentative new reference reagents with the following specificities have been evaluated:

2013/2014: anti-dsDNA (now publicly available as the 2nd WHO standard, NIBSC 15/174)

2014/2015: ACPA

2015/2016: anti-PR3 (now available from the EU Science Hub, denoted ERM-DA483/IFCC)

2015/2016: anti-MPO (now available from the EU Science Hub, denoted ERM-DA476/IFCC)

2015/2016: IgG anti- β 2GP1

2016/2017: anti-GBM

2017/2018: anti-DFS70 (dense fine speckled ANA, 70 kD)

After that the ECFSG activities showed that the anti-dsDNA sample was a suitable raw material for the preparation of a 2nd WHO anti-dsDNA standard, Johan Rönnelid participated in the planning of the validation of the final product during the spring 2016. The product was officially released by NIBSC/WHO on November 15, 2017.

The study group meetings have a common lecture, and the last years that lecture has focused on autoantibody standardization. During the 2017 meeting in Athens, Dr Ingrid Zegers from Gent, Belgium gave a talk entitled “The Working Group for Harmonization of Autoantibody Tests (WG-HAT): current status of development of new reference standards for autoantibodies” and in the 2018 meeting in Geneva, Dr Llieve van Hoovels from Aalst, Belgium lectured on “Clinical performance characteristics of rheumatoid factor and anti-cyclic citrullinated peptide antibody assays”.

Between 25-30 individuals yearly attend the study group sessions in conjunction to EWRR. Many participants in the serum investigations are pure laboratory experts, and do not regularly attend EWRR, partly because they do not send scientific abstracts there which is a prerequisite for EWRR participation. To increase the incentives to attend the study group sessions, we negotiate with the local EWRR committees, and for the last years, participation in the serum investigations and attendance to the EWRR study group meeting has counted as active participation and eligibility to attend the EWRR. Around five ECFSG participants have utilized that possibility each year. Since the 2016/2017 meeting in Athens we also work on refining the possibilities to attend the study group meetings via webinars.

The direct communications with EULAR have been more intensive during the last years, and the study group is now represented on each annual European EULAR congress. We have a five-year EULAR project funding covering costs for meetings and transportation of samples until 2021.

It has become obvious that the different bodies working on autoantibody standardization should collaborate closely. Except ECFSG, other main actors are the Autoantibody Standardization Committee (ASC) affiliated with the Arthritis Foundation Centre Disease Control/International Union Immunological Societies, the European Autoimmunity Standardization Initiatives (EASI), the Committee for Harmonization Autoimmunity Tests (C-HAT) affiliated to the International Federation of Pure and Applied Chemistry and the International Consensus on ANA Patterns (ICAP) and the National Institute for Biological Standards and Control (NIBSC) in UK producing international reference reagents endorsed by WHO. Besides participating in the study group meetings and EULAR congresses, ECFSG has also been represented at other meetings, like the ASC meeting during ACR in Washington 2016, the ICAP meetings in Kyoto 2016 and in Dresden 2017, and the 3rd International Autoantibody Standardization workshop (IAS) in Dresden 2017. During all these external activities, Johan Rönnelid gave presentations about the work of ECFSG.

The ECFSG activities during 2016/2017 indicated a need for a specific anti-Sci70/topoisomerase-1 ANA pattern that was lacking in the new internationally adopted ANA nomenclature (www.anapatterns.org). This was communicated to the ICAP board in March 2017, and during the Dresden ICAP meeting a new ANA pattern (AC-29) corresponding to anti-Sci70/topoisomerase-1 was presented, and thereafter described in a submitted manuscript*. The AC-29 pattern is now a recognized part of the ICAP ANA pattern nomenclature.

Steering Committee 2018:

Dr Johan Rönnelid, University Hospital, Uppsala, Sweden (chairman since 2014)

Dr Charlotte Dahle, University Hospital, Linköping, Sweden (secretary)

Dr Dörte Hamann, Sanquin Diagnostic Services, Amsterdam, the Netherlands (treasurer)

Dr Eugen Feist, Charité University Hospital, Berlin, Germany

Dr Martin Blüthner, MVZ Labor PD Dr. Volkmann und Kollegen GbR, Karlsruhe, Germany

* Luis E. C. Andrade, Werner Klotz, Manfred Herold, Karsten Conrad, Johan Rönnelid, Marvin J. Fritzler, Carlos A. von Mühlen, Minoru Satoh, Jan Damoiseaux, Wilson de Melo Cruvinel, Edward K. L. Chan.

International Consensus on Antinuclear Antibody Patterns: definition of the AC-29 pattern associated with antibodies to DNA topoisomerase I. Submitted to Clinical Chemistry and Laboratory Medicine on February 18, 2018.