ASSOCIAZIONE ITALIANA NEUROIMMUNOLOGIA

Guideline update AINI 2009

Summary of the external quality control session on autoimmunity and oligoclonal bands
held at Porto Cervo on the occasion of the XIX AINI Congress on 1 October 2009

The exercise included three paired samples of serum and cerebrospinal fluid (LCS) collected with a diagnostic purpose from three patients by Prof. Francesco Lolli (Florence). The LCS samples sent to 24 centres were therefore sufficient to determine the oligoclonal bands only.
The percentage of centres having answered correctly, by detecting the three patterns from the samples, identified as "right answer" on the basis of the highest percentage for each answer to the three requested requirements, was lower (around 20%) with regards to last year's control and, in general, lower than the previous years.

Prof. Alessandra Lugaresi (Chieti) stated that this low percentage could be caused by pre-analytical factors, due to the fact that, in her case and in other cases which she was aware of, the samples arrived to destination with outer containers not being perfectly undamaged and some liquoral samples contained less quantity than the stated small quantities.
As far as the outer containers are concerned, it was underlined that the samples had been defrosted just once before their sending and that they got to their destination the following day, with the request of not freezing the samples before the analysis; in one of the centres, sample C, the most critical on the basis of the general results, was kept constantly at +4°C and then tested three times during the following 15 days, with overlapping results. This factor, and the preservation after delivery of the samples, "left" on the desk for several days, should not, therefore, have influenced the analysis negatively. The scarce amount of volumes is a more complex problem from the interpretation point of view (the samples had to be centrifuged before opening): it is difficult to quantify the degree of interference with the analysis; certainly, too scarce volumes have not allowed to test the sample several times, and this is an important limit in isoeletrofocusing. However, the centre in Chieti has given correct answers to all patterns, but it did not fall among those that have correctly identified all three samples, due to a problem of assigning pattern number 4 to sample C.
Dr. Patrizia Sola (Modena) was wondering if the technical factor linked to the type of machine used for isoelettrofocusing could have somehow influenced answers: it would not seem so, especially if taking into account the previous years experience.
Prof. Hans Link (Stockholm) when asked to give his opinion, highlighted the fact that a quality control by oligoclonal bands should concentrate exclusively on pattern 2, typical in multiple sclerosis, and therefore sending samples like sample C (pattern 4) does not make much sense.
To improve the general quality of the analysis and the interpretation of the oligoclonal bands, the AINI Steering Committee will promote theoretical and practical courses on the subject. The will is to be able to develop "official" certification procedures in the future.
The results of the quality control on the anti-aquaporin-4/NMO-IgG antibodies were presented as well, which evidenced a satisfying agreement between centres, as well as those for the quality control on acetylcholine anti-receptor antibodies, with single differences on "critical" samples because their antibody titles are close to the method's cut-off and, finally, those for the quality control on the anti-MUSK antibodies, with differences which could be caused by sample dilution factors.