Haematology Working Group

Bucharest 2013

4 subjects were presented/discussed in Bucharest:

I. Harmonization of CBC reference ranges (acceptable limits) for European EQAS

The purpose of the work on "Harmonization of CBC reference ranges (acceptable limits = AL) for European EQAS" is to provide appropriate criteria to evaluate the performance of medical laboratories in the field of hematology (Blood cells counting). The working group opted to work on the following relevant parameters: WBC, TBC, RBC, Hb, HCT, MCV and Reticulocytes. In 2012, in Herlev, the working group decided to perform a statistical study. This statistical project should determine the most adapted AL from the data obtained by each EQAP. The Toulouse center quality control in clinical chemistry (CTCB) has been in charge of collecting the data. In 2013, we collected more than 435018 data from eight EQA organizers* (Depending their program, they gave us results from one to 21 surveys, obtained with lyophilized or fresh blood). The Scientific Institute of Public Health (ISP /WIV) was in charge of the statistical treatment. The conclusions were presented by Mohamed Rida Soumali at the EQALM meeting in Bucharest. Data analysis was performed with 238933 results (after excluding peer group with multimodality, outliers and peer groups with less than 10 results). The method is described in the presentation given in Bucharest, which is available from www.EQALM.org. The distribution of relative differences (%) was analyzed according to the median concentrations (level of the samples) for each parameter and for three percentiles (P99, P95 and P90). In a first instance, an investigation was made to check whether the limit is concentration-dependent or not. For example, for the red blood cells, it was found that there is no relation between the relative differences and the concentration for all the chosen percentiles. For other parameters, like thrombocytes, a net decrease of relative differences when the level of the sample increases from 20 000 to 200 000 G/L platelets was observed. In this case, the acceptable limits should be determined according the level of the sample. The study will continue in 2014 different objects:

- Comparing the percentage of bad performers per applied technique
- Matching the new limits with the evaluation procedure currently used by EQA organizers
- Comparing the new limits with clinical needs.

**ANSM (France), CSCQ (Switzerland), CTCB (France) DEKS (Denmark, PNAEQ (Portugal), SEHH (Spain), UKNEQAS (England), WIV-ISP (Belgium)*

II. European practice in assessing performance in the haemogloninopathis (UKNEQAS)

We decided to try to cooperate on this thematic, starting with two pathologies:

- To proposed to European laboratories to participate at the pyruvate kinase survey: so EEQ organizers are in charge of inventorying the interested laboratories in their country.
- To make a survey in order to know which EEQ organizers propose a scheme on HbA2, what are the characteristics of these schemes (which samples, which frequency …) and if this organizers are able to provide samples to foreign laboratories

III. Blood smear marking in haematology.

The procedure of the blood smear marking in haematology used by the ANSM (French mandatory EEQ) was presented in Bucharest. This procedure which can be used for all types of laboratories and not only for specialized ones takes in account:

- the whole result of blood smear and not only numerical results of LDC
- the relevant cell type(s) (eg = blasts) and large count limits
- the morphological characteristics (eg = Auer rods) and hypothesis of diagnosis

The members of the working group were very interested by this subject and wanted to work on it. We decided first of all to send a questionnaire to the EQALM members in order to inventory what is currently done in each scheme.

IV. Post analytical survey (Noklus)

This survey continues. The number of participants increases. In 2013 (survey undertaken in September/October), the participants come from Denmark (14), Finland (4), France (88), Hungary (9), Ireland (9), Norway (37), Portugal (1), Russia (39), Spain (24), Switzerland (16) and UK (42). At the previous surveys, the programme was available for the following instruments: ABX (Pentra 80, XL80, 120, DX120), ADVIA (H1, H2, 120, 2120), CELL-DYN (4000, Sapphire, 3000, 3200, 3500, 3700, Ruby), and Sysmex (SF, XE, XS, XT, XN, HST). In 2013, Coulter (UniCel DxH 800, LH 500, LH 750, LH 755, LH 780, Gen S, MAXM, HMX, STKS) were added. Now, the program is open for more than one person of a laboratory (each person must register for having an anonymous code).