IEQAS
Irish External Quality Assessment Scheme

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Reporting HbA_{1c} for patients with variant haemoglobin: a consensus approach

Last year, a number of IEQAS participants suggested that a consensus approach was needed when reporting the results of HbA_{1c} analysis where variant haemoglobins were detected.

Dr Tom Smith, Department of Endocrinology, St Vincent's University Hospital, led an IEQAS survey of current practice in Irish laboratories. Of the 25 laboratories surveyed, 22 replied. All 22 favoured a consensus approach. Most laboratories (91%) either electronically or manually detect when a variant haemoglobin is present; 77% include a comment, caveat or recommendation alongside the HbA_{1c} result in such cases.

The survey findings were presented at the workshop of the IEQAS 2012 Participants' Conference, where a draft comment was proposed for inclusion in reports when a variant haemoglobin was detected during the course of HbA_{1c} measurement. Following feedback from participants and consideration by the IEQAS HbA_{1c} Review Group and Steering Committee, the following wording for the comment is recommended:

Haemoglobin variant detected, interpret HbA_{1c} result with caution.
Do not use this result for diagnosis or to assess concordance with glycaemic targets.

IEQAS Chairman, Dr Ned Barrett, recently discussed the proposed comment with Dr Diarmuid Smith, Clinical Lead, HSE National Clinical Programme for Diabetes, who endorsed the wording and the addition of the above comment to reports.

This comment is recommended as the minimum comment, for use when inspection of the HPLC chromatogram points to the presence of a haemoglobin variant in a sample submitted for HbA_{1c} determination for the primary purpose of diagnosis/screening for diabetes or monitoring of glycaemic control in a patient with diabetes. The comment will serve to warn the requesting doctor that the reported HbA_{1c} may not be reliable as it may be increased or decreased due to interference caused by the haemoglobin variant. A haemoglobin variant that shortens the erythrocyte lifespan will also affect the utility of the HbA_{1c} result. Differences in the kinetics of glycation between haemoglobin A and the different haemoglobin variants have yet to be clarified.

The inclusion of reference to alternative non-haemoglobin-based methods of assessing glycaemic control, such as fructosamine or home blood glucose monitoring, was considered but excluded from the minimum comment, with the agreement of Dr Diarmuid Smith.

Consultant advice on the clinical impact, if any, for the patient should be available, if required by the requesting doctor. Issues relating to patient consent for proceeding to identify the actual haemoglobin variant present are clearly outside the scope of IEQAS's role. Also, arrangements regarding the availability of clinical advice and care pathways in the specialist area of haemoglobinopathies are matters for the individual hospitals or hospital groups to address.

Dr Tom Smith,
Dr Ned Barrett,
Ms Hazel Graham.

25th April 2013.