HbA_{1c} Update

IVD Roundtable
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Carol C. Benson, M.A.
Associate Director – Division of Chemistry and Toxicology Devices
Office of In Vitro Diagnostic Device Evaluation and Safety

Protecting and Promoting Public Health

Overview

- ADA's recommendation for diagnosis of diabetes
- FDA's outreach to manufacturers
- HbA_{1c} – indications for use and changes
- FDA's path to 510(k) clearance for HbA_{1c} for new indications for use

ADA's Recommendation

Updated recommendations for medical practice standards in diabetes

American Diabetes Association, Standards of Medical Care in Diabetes – 2101, Diabetes Care, Volume 33, Supplement 1 January 2010

Added HbA_{1c} as a means of diagnosis diabetes
Results of A_{1c} of 6.5% indicate diabetes

ADA's Recommendation

HbA1c test should be performed

- in a laboratory using a method that is certified by the National Glycohemoglobin Standardization Program (NGSP) and

- standardized to the DCCT assay

FDA's outreach to manufacturers

Letter to Manufacturers With HbA1c Assays Listed With the FDA

None have 510(k) clearance for diagnosis all are for monitoring glycemic control

Possible with additional analytical data showing assays are accurate and reliable for this new claim

HbA_{1c}

Indications for use –

Monitoring the long term glycemic control of individuals with diabetes

HbA_{1c} changes

Standardization – NGSP and IFCC

Global Harmonization – Not there

NGSP – reduced allowed error for certification

CAP – reduced accuracy limits for PT also accuracy based PT rather than peer

Most of the assays have low CVs

NGSP Certification – needed yearly

FDA's Regulatory Process

de novo for new indications for use

"…the diagnosis of diabetes and identifying persons with increased risk of developing diabetes "

Special control guidance – identify risks and mitigation of risks

Analytical Evaluation

- Cut-off 6.5% as recommended by ADA
- Certified by NGSP
- method comparison traceable to DCCT assay

Analytical Evaluation - 2

- Precision – CLSI Ep5-A2

  5% - 6.5% - 8% and 10 or 12%

- Interference studies – 6.5% and ≥8.0%

  Usual suspects - bilirubin, triglycerides, total protein, rheumatoid factor, acetylsalicylate, ascorbic acid, and carbamylated A1c

  Other hemoglobins - HbS, HbC, HbE, HbD, HbF

Analytical Expectations

- Precision results in CV of <5%
- Bias at 6.5% – ≤ 6%
- Little to no interference from other hemoglobins

Labeling

- ADA - 6.5% for cut-point
- Information on NGSP certification
- Accuracy with comparative DCCT method
- Precision
- Interferences
- Limitations

Waived and non Waived Assays

- Waived assay has no proficiency testing requirements, no training or personnel req.
- Waived only follow manufacturer's instructions and have waiver certificate from CMS

- ADA recommended laboratory based assay

Are all the questions answered?

- No
- More work to do
- Open communications through FDA “pre-ide” process
- Submit protocol

Thank you!

carol.benson@fda.hhs.gov

301-796-5459