Performing HIL on Siemens Dimension Vista

Purpose

This procedure provides instructions for PERFORMING HIL (HEMOLYSIS, ICTERUS, LIPEMIA) ON SIEMENS DIMENSION VISTA.

Policy Statements

- HIL (Hemolysis, Icterus, Lipemia) testing is performed on all samples tested on the Siemens Dimension Vista.
- This procedure applies to all operators of the Siemens Dimension Vista.

Principle

The HIL reporting feature alerts the operator to potential interference from hemolysis, icterus and lipemia in a sample. Spectral absorbance measurements are used to generate sample-specific HIL indices. The index values appear on the test report and correlate to an approximate concentration range in mg/dL for each of the potential interferents.

H = hemoglobin resulting from lysis of red blood cells
I = icterus resulting from endogenous bilirubin
L = lipemia or turbidity caused by insoluble lipids

If a HIL index value is equal to or greater than the alert threshold established for the method, an interference comment appears on the report. Each index value correlates to an approximate concentration for each of the potential interferents. By default the recommended HIL Alert indices are automatically displayed in the method configuration screen if there is HIL interference on the method.

Clinical Significance

HIL interference can cause falsely elevated or decreased values at an increased bias on specific analytes than on those that are not flagged. This can alter treatment of a patient if the observed interference can significantly change the value of an analyte.

Analyzer

Siemens Dimension Vista 500

Specimen

Sample aliquot in SSC with pilot tube, or Sample Cup.

Procedure

Follow the activities in the table below for PERFORMING HIL (HEMOLYSIS, ICTERUS, LIPEMIA) ON SIEMENS DIMENSION VISTA.

Step	Action	Related Document
1	H, I or L interference YELLOW alert appears at the top of Vista screen.	
2	Tap or Click on the alert. You are taken to PATIENT SAMPLES > PROBLEM SAMPLES.	
3	Select the problem sample from the list. Tap or click SHOW SAMPLE to view the sample.	

4	VISUALLY INSPECT the specimen to see if the appearance corresponds to the interference alert.	
5	For each test flagged with an H, I or L, determine the interference comment to use **IF** / **THEN** H interference → Append "-HP" to the affected assays I interference → Append "-BIN" to the affected assays L interference → Append "-LINT" to the affected assays Multiple → Append appropriate multiple comments (e.g. H and I interference "-HP-BIN")	
6	DO NOT routinely report the amount of H,I, or L on a sample unless it is requested by the person taking care of the patient. **IF** / **THEN** Nurse or physician requests the amount of H or L. → Find the H or L index on the patient report in the Vista Append the corresponding comment from the ASSAY FLOWCHART or the table in RESULT REPORTING below.	CH5.100.f1 Siemens Dimension Vista Assay Flowchart

Reference Range

H = 1
I = 1
L = 1

Limitations

Each sample MUST be visually inspected to ensure that an error was not made by the analyzer with a dirty or broken cuvette.

NH3 that is hemolyzed should be resulted as HIN.

AST that gives an "abnormal assay" message should be resulted as HIN. DO NOT DILUTE!

ALK, ALT, FERI, FSH, LH, PROL do not specify amounts of interference. Result with HP, BIN or LINT accordingly.

Sunquest Codes

HP = Hemolysis present, may affect results (*)
SLH = Slight hemolysis
MH = Moderate hemolysis
GRH = Gross hemolysis, may interfere with testing.
HIN = Hemolysis interference

BIN = Bilirubin interference (*)

LINT = Lipid Interference (*)
SLI = Lipemia, Slight
MODL = Lipemia, Moderate
GL = Lipemia, Gross

(*) Denotes default code to use for H, I or L interference.

Result Reporting

Append the code **HP**, **BIN** or **LINT** as the default code.

If requested by the physician, use the following table to determine the amount of H, I or L present.

Index Value	H Hemoglobin (mg/dL)	H Result	I Bilirubin (mg/dL)	I Result	L Intralipid® (mg/dL)	L Result
1	H ≤ 10	SLH	I ≤ 2	BIN	L ≤ 50	SLI
2	10 < H ≤ 25		2 < | ≤ 5		50 < L ≤ 100	
3	25 < H ≤ 50		5 < | ≤ 10		100 < L ≤ 200	
4	50 < H < 200	MH	10 < | ≤ 15		200 < L ≤ 400	MODL
5	200 < H < 300		15 < | ≤ 20		400 < L ≤ 600	
6	300 < H < 500		20 < | < 40		600 < L ≤ 800	
7	500 < H ≤ 1000	GRH	40 < | < 60		800 < L ≤ 1000	GL
8	H > 1000		I > 60		L > 1000	

References

Siemens Dimension Vista iGuide, version 20120130_02_EN

Historical Record

Version	Written/Revised by:	Effective Date:	Summary of Revisions
1	David Helfinstine	12/17/2013	Initial Version