Lilac Insights
passion • commitment • genetics

To:	**RDT Hospital** Kalyan Durgam Ananthapur Ananthapur - 515761 Contact: 9441010170 **Report Of: B/O JYOTHI** Pt. Contact:

Sample ID	2310029723
Patient ID	1002358500
Collected on	24/07/2023
Received on	24/07/2023 12:41
Registered on	24/07/2023 13:42
Reported on	-
Referred by	**DR.ASHOK**

Hemoglobinopathy Screening

Patient Name: B/O JYOTHI
Sample Type: Whole Blood EDTA
Date of Birth/Age: 0 yrs
Gender: FEMALE
City: ANANTAPUR
Method: High Performance Liquid Chromatography (HPLC)
Blood Transfusion History: Yes
Referral Reason or Clinical History:

About the test

Hemoglobinopathy screening by high performance liquid chromatography is a blood test that is used for detecting quantitative and qualitative abnormalities of hemoglobin (Hb), namely, Thalassemia and Structural Hb variants (e.g. HbS) respectively. The test helps identify individuals with these disorders so that they can receive timely and appropriate treatment and care. Antenatal diagnosis of these disorders allows measures to reduce the chances of the birth of an affected baby. It is also possible to screen the newborns for hemoglobinopathies using this approach, thereby decreasing the mortality & morbidity associated with conditions like Sickle cell disorder.

Test findings

Hb Fraction	Observed Value (%)	Expected Value (%)
HbF	1.6*%	<2%
P2*	4.3%	<4.6%
HbA0	84.5% ⚠	85 - 95%
HbA2/HbE	2.9%	1.8 - 3.5%
HbD	ABSENT	Absent
HbS	ABSENT	Absent

*The mentioned P2 value from BioRad Variant-II HPLC system is equivalent of HbA1c value in BioRad D10 system

⚠ Indicates that the individual requires further evaluation and opinion from the clinician.

Interpretation

Chromatogram shows low HbF for the age of the patient (? due to recent blood transfusion)
Hemoglobin, PCV and RBC count are reduced and red cell indices are normal. To rule out other causes of anemia such as iron deficiency.

Suggestions

1. Serum iro studies.

Verified by
Mr. Pradip Kadam
Incharge Biochemistry

Dr. A. Dasgupta MD, PhD,
Consultant Hematopathologist

Lilac Insights Pvt. Ltd. 301-302, Building A-1, Rupa Solitaire Millennium Business Park, MIDC Industrial Area, Sector-1, Navi Mumbai, Maharashtra 400710.
Phone: **+91 22 41841438**; Website: **www.lilacinsights.com**; For queries or complaints, please email: **info@lilacinsights.com** | CIN - U85191MH2011PTC217513

Lilac Insights™
passion • commitment • genetics

Patient Name : B/O JYOTHI	Sample ID : 2310029723

HPLC Findings

*Values outside of expected ranges

Analysis comments:

Patient Data

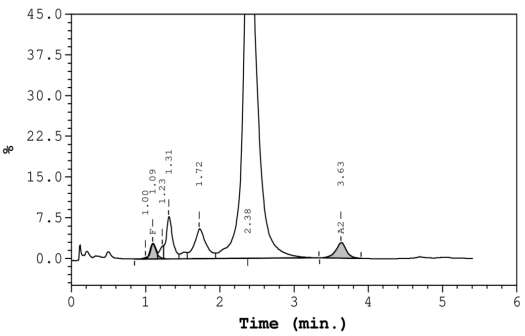
Sample ID:	2310029723
Patient ID:	
Name:	
Physician:	
Sex:	
DOB:	
Comments:	

Analysis Data

Analysis Performed:	07/24/2023 13:25:42
Injection Number:	4157
Run Number:	333
Rack ID:	0002
Tube Number:	7
Report Generated:	07/24/2023 13:50:13
Operator ID:	

Peak Name	Calibrated Area %	Area %	Retention Time (min)	Peak Area
Unknown	---	0.1	1.00	1762
F	1.6*	---	1.09	28407
Unknown	---	0.9	1.23	16636
P2	---	4.3	1.31	78495
P3	---	5.9	1.72	106557
Ao	---	84.5	2.38	1538292
A2	2.9	---	3.63	50477

Total Area: 1,820,627



F Concentration = 1.6* %
A2 Concentration = 2.9 %

Important Blood Indices (from CBC Analysis)

Parameters	Result	Reference Range	Units
Hemoglobin (Hb)	8.11 ⚠	12 - 15	g/dL
RBC Count	2.62 ⚠	3.8 - 4.8	x 10^6/µL
Hematocrit	23.20 ⚠	36 - 46	%
Mean Corpuscular Volume (MCV)	87.40	83 - 101	fL
Mean Corpuscular Hb (MCH)	30.60	27 - 32	pg
Mean Corpuscular Hb Conc. (MCHC)	35.00 ⚠	31.5 - 34.5	g/dL
RBC Distribution Width (RDW) (CV)	15.50 ⚠	11.6 - 14	%
RBC Distribution Width (RDW) (SD)	53.20 ⚠	39 - 46	fL

Notes:

1. Recent blood transfusions and iron deficiency can interfere with the results, repeat testing is recommended three months after the last blood transfusion. In case of iron deficiency, it is recommended to evaluate the result post-correction of iron deficiency.
2. Megaloblastic anemia can cause elevated HbA2 levels. A repeat assay is recommended after correction of VitB12 deficiency.
3. Mild to moderately elevated fetal hemoglobin (HbF) values are observed during pregnancy, hypoxia, chronic kidney disease, use of certain drugs,myelodysplastic syndromes (MDS), aplastic anemia and conditions of stress hemopoiesis.
4. Cases with borderline HbA2 levels (3.1-3.9%) could represent Silent Beta-thalassemia trait, or co-existent iron deficiency or Alpha-thalassemia in a case of Beta-thalassemia trait. They need to be investigated further by appropriate tests.
5. Confirmatory molecular tests for Beta-thalassemia traits and abnormal hemoglobin disorders (e.g. HbS, HbE, and HbD), followed by subsequent prenatal diagnosis (If required) are available at our centre.
6. The mentioned P2 value from BioRad Variant-II HPLC system is equivalent of HbA1c value in BioRad D10 system

Disclaimers:

1. The Hb-HPLC is a screening test that detects Beta-thalassemia and other hemoglobin variants. It does not identify Alpha-thalassemia and Silent Beta-thal-assemia carriers. DNA analysis is recommended to rule out Alpha-thalassemia and Silent Beta-thalassemia carriers.
2. The result must be interpreted in conjunction with the complete blood counts (CBC), VitB12 and iron profile of the individual.
3. Each sample received at Lilac Insights' processing centre is handled with the utmost sensitivity and care. All samples received on Sundays and National holidays are stored as per specific guidelines for the respective specimens and processed on the next day.
4. P2 peak in Bio Rad's Variant II HPLC platform represents glycated hemoglobin. It is elevated in uncontrolled diabetes.

Verified by
Mr. Pradip Kadam
Incharge Biochemistry

Dr. A. Dasgupta MD, PhD,
Consultant Hematopathologist

Lilac Insights Pvt. Ltd. 301-302, Building A-1, Rupa Solitaire Millennium Business Park, MIDC Industrial Area, Sector-1, Navi Mumbai, Maharashtra 400710.
Phone: **+91 22 41841438**; Website: **www.lilacinsights.com**; For queries or complaints, please email: **info@lilacinsights.com** | CIN - U85191MH2011PTC217513