To: **Endoworld Hospital**
#723,Infront of Airport,
Chikalthana, Aurangabad
MAHARASHTRA
Aurangabad - 431007
Contact: 7045919305
**Report Of: Mrs. SAVITA PAWARA**
Pt. Contact:

| | |
|---|---|
| Sample ID | 2300116435 |
| Patient ID | 1002356125 |
| Collected on | 17/07/2023 |
| Received on | 19/07/2023 16:20 |
| Registered on | 19/07/2023 15:17 |
| Reported on | 20/07/2023 09:24 |
| Referred by | **DR.RINKU PALASKAR** |

## Hemoglobinopathy Screening

Patient Name: Mrs. SAVITA PAWARA
Sample Type: Whole Blood EDTA
Date of Birth/Age: 02/05/1994
Gender: FEMALE
City: AURANGABAD
Method: High Performance Liquid Chromatography (HPLC)
Blood Transfusion History: No
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 | 0.5% | <2% |
| P2* | 3.7% | <4.6% |
| HbA0 | 87.6% | 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

## Interpretation

**Chromatogram shows normal hemoglobin pattern.**
**Hemoglobin and PCV are reduced, RBC count is incresed and red cell indices are microcytic with high RDW. These findings suggest the following possibilities**
**1. Alpha thallsemia trait**
**2. Silent beta thallsemia trait**

## Suggestions

**1. Mollecular studies to rule aot the above possibilites.**
**2. Haemoglobin analysis of the parentes and the partner by HPLC.**

Verified by
**Mr. Pradip Kadam**
Incharge Biochemistry

**Dr. A. Dasgupta** MD, PhD,
Consultant Hematopathologist

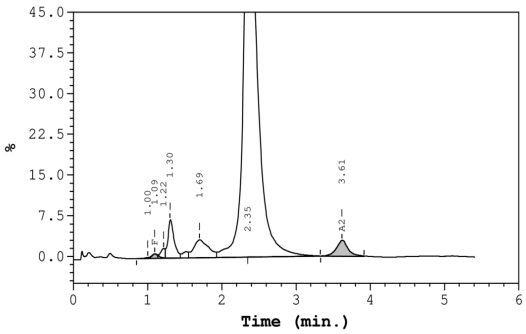
Patient Name : Mrs. SAVITA PAWARA | Sample ID : 2300116435

## HPLC Findings

**Patient Data**
Sample ID: 2300116435
Patient ID:
Name:
Physician:
Sex:
DOB:
Comments:

**Analysis Data**
Analysis Performed: 07/19/2023 13:39:15
Injection Number: 3964
Run Number: 323
Rack ID: 0002
Tube Number: 8
Report Generated: 07/19/2023 15:06:50
Operator ID:

Analysis comments:




| Peak Name | Calibrated Area % | Area % | Retention Time (min) | Peak Area |
|---|---|---|---|---|
| Unknown | --- | 0.1 | 1.00 | 1435 |
| F | 0.5 | --- | 1.09 | 10690 |
| Unknown | --- | 0.8 | 1.22 | 15631 |
| P2 | --- | 3.7 | 1.30 | 76551 |
| P3 | --- | 4.3 | 1.69 | 88806 |
| Ao | --- | 87.6 | 2.35 | 1797255 |
| A2 | 2.9 | --- | 3.61 | 61892 |

Total Area: 2,052,260

**F Concentration = 0.5 %**
**A2 Concentration = 2.9 %**

## Important Blood Indices (from CBC Analysis)

| Parameters | Result | Reference Range | Units |
|---|---|---|---|
| Hemoglobin (Hb) | 11.78 ⚠ | 12 - 15 | g/dL |
| RBC Count | 5.23 ⚠ | 3.8 - 4.8 | x $10^6$/µL |
| Hematocrit | 34.90 ⚠ | 36 - 46 | % |
| Mean Corpuscular Volume (MCV) | 66.70 ⚠ | 83 - 101 | fL |
| Mean Corpuscular Hb (MCH) | 22.50 ⚠ | 27 - 32 | pg |
| Mean Corpuscular Hb Conc. (MCHC) | 33.80 | 31.5 - 34.5 | g/dL |
| RBC Distribution Width (RDW) (CV) | 21.60 ⚠ | 11.6 - 14 | % |
| RBC Distribution Width (RDW) (SD) | 42.80 | 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.

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