
# P K R JAIN HEALTHCARE INSTITUTE

NASIRPUR, Hissar Road, AMBALA CITY- (Haryana)

A PIONEER DIAGNOSTIC CENTRE

0171-2532620, 8222896961 pkrjainhealthcare@gmail.com




| | | | |
|---|---|---|---|
| **NAME** | **: Mrs. PARVEEN** | | |
| **AGE/ GENDER** | : 54 YRS/FEMALE | **PATIENT ID** | : 1749600 |
| **COLLECTED BY** | : | **REG. NO./LAB NO.** | **: 122502080012** |
| **REFERRED BY** | : | **REGISTRATION DATE** | : 08/Feb/2025 10:30 AM |
| **BARCODE NO.** | : 12506900 | **COLLECTION DATE** | : 08/Feb/2025 12:33PM |
| **CLIENT CODE.** | : P.K.R JAIN HEALTHCARE INSTITUTE | **REPORTING DATE** | : 08/Feb/2025 02:13PM |
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| Test Name | Value | Unit | Biological Reference interval |
|---|---|---|---|

## HAEMATOLOGY

### HAEMOGLOBIN (HB)

| | | | |
|---|---|---|---|
| HAEMOGLOBIN (HB)<br>*by CALORIMETRIC* | **11.5$^{L}$** | gm/dL | 12.0 - 16.0 |

***INTERPRETATION:-***

Hemoglobin is the protein molecule in red blood cells that carries oxygen from the lungs to the bodys tissues and returns carbon dioxide from the tissues back to the lungs.

A low hemoglobin level is referred to as ANEMIA or low red blood count.

**ANEMIA ( DECRESED HAEMOGLOBIN):**

1) Loss of blood (traumatic injury, surgery, bleeding, colon cancer or stomach ulcer)
2) Nutritional deficiency (iron, vitamin B12, folate)
3) Bone marrow problems (replacement of bone marrow by cancer)
4) Suppression by red blood cell synthesis by chemotherapy drugs
5) Kidney failure
6) Abnormal hemoglobin structure (sickle cell anemia or thalassemia).

**POLYCYTHEMIA (INCREASED HAEMOGLOBIN):**

1) People in higher altitudes (Physiological)
2) Smoking (Secondary Polycythemia)
3) Dehydration produces a falsely rise in hemoglobin due to increased haemoconcentration
4) Advanced lung disease (for example, emphysema)
5) Certain tumors
6) A disorder of the bone marrow known as polycythemia rubra vera,
7) Abuse of the drug erythropoetin (Epogen) by athletes for blood doping purposes (increasing the amount of oxygen available to the body by chemically raising the production of red blood cells).

**NOTE: TEST CONDUCTED ON EDTA WHOLE BLOOD**

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TEST PERFORMED AT KOS DIAGNOSTIC LAB, AMBALA CANTT.

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| **PLATELET COUNT (P/C)** | | | |
| PLATELET COUNT (PLT) | 189000 | /cmm | 150000 - 450000 |

*by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE & MICROSCOPY*

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## GLYCOSYLATED HAEMOGLOBIN (HBA1C)

| | | | |
|---|---|---|---|
| GLYCOSYLATED HAEMOGLOBIN (HbA1c): WHOLE BLOOD<br>*by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)* | **7.6$^{H}$** | % | 4.0 - 6.4 |
| ESTIMATED AVERAGE PLASMA GLUCOSE<br>*by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)* | **171.42$^{H}$** | mg/dL | 60.00 - 140.00 |

***INTERPRETATION:***

| AS PER AMERICAN DIABETES ASSOCIATION (ADA): | | |
|---|---|---|
| **REFERENCE GROUP** | **GLYCOSYLATED HEMOGLOGIB (HBAIC) in %** | |
| Non diabetic Adults >= 18 years | <5.7 | |
| At Risk (Prediabetes) | 5.7 – 6.4 | |
| Diagnosing Diabetes | >= 6.5 | |
| Therapeutic goals for glycemic control | **Age > 19 Years** | |
| | Goals of Therapy: | < 7.0 |
| | Actions Suggested: | >8.0 |
| | **Age < 19 Years** | |
| | Goal of therapy: | <7.5 |

**COMMENTS:**

1.Glycosylated hemoglobin (HbA1c) test is three monthly monitoring done to assess compliace with therapeutic regimen in diabetic patients.

*2.Since Hb1c reflects long term fluctuations in blood glucose concentration, a diabetic patient who has recently under good control may still have high concentration of HbAIc. Converse is true for a diabetic previously under good control but now poorly controlled.*

*3.Target goals of < 7.0 % may be beneficial in patients with short duration of diabetes, long life expectancy and no significant cardiovascular disease. In patients with significant complications of diabetes, limited life expectancy or extensive co-morbid conditions, targetting a goal of < 7.0% may not be appropiate.*

4.High HbA1c (>9.0 -9.5 %) is strongly associated with risk of development and rapid progression of microvascular and nerve complications

5.Any condition that shorten RBC life span like acute blood loss, hemolytic anemia falsely lower HbA1c results.

6.HbA1c results from patients with HbSS,HbSC and HbD must be interpreted with caution , given the pathological processes including anemia,increased red cell turnover, and transfusion requirement that adversely impact HbA1c as a marker of long-term gycemic control.

7.Specimens from patients with polycythemia or post-splenctomy may exhibit increse in HbA1c values due to a somewhat longer life span of the red cells.

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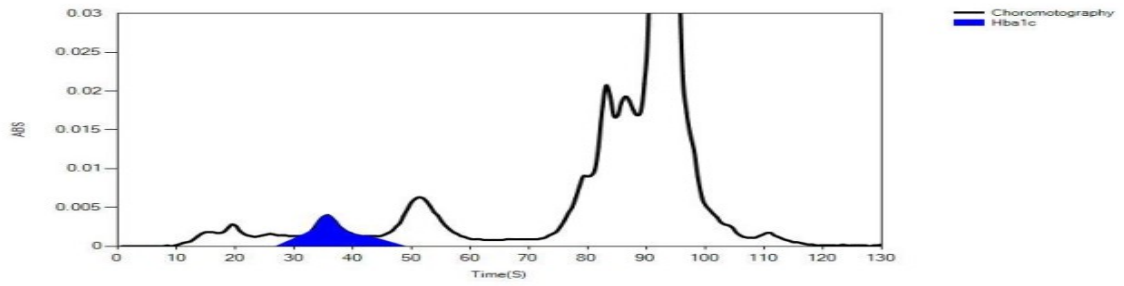
LIFOTRONIC Graph Report

| | | | | |
|---|---|---|---|---|
| Name : | Case : | Patient Type : | | Test Date : 08/02/2025 18:47:07 |
| Age : | Department : | Sample Type : Whole Blood EDTA | | Sample Id : 12506900 |
| Gender : | | | | Total Area : 7502 |

| Peak Name | Retention Time(s) | Absorbance | Area | Result (Area %) |
|---|---|---|---|---|
| HbA0 | 68 | 2115 | 6451 | 81.3 |
| HbA1c | 38 | 63 | 603 | 7.6 |
| La1c | 26 | 40 | 248 | 3.1 |
| HbF | 19 | 16 | 27 | 0.3 |
| Hba1b | 14 | 28 | 97 | 1.2 |
| Hba1a | 11 | 18 | 76 | 0.9 |

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## PROTHROMBIN TIME STUDIES (PT/INR)

| | | | |
|---|---|---|---|
| PT TEST (PATIENT)<br>*by PHOTO OPTICAL CLOT DETECTION* | 12.5 | SECS | 11.5 - 14.5 |
| PT (CONTROL)<br>*by PHOTO OPTICAL CLOT DETECTION* | 12 | SECS | |
| ISI<br>*by PHOTO OPTICAL CLOT DETECTION* | 1.1 | | |
| INTERNATIONAL NORMALISED RATIO (INR)<br>*by PHOTO OPTICAL CLOT DETECTION* | 1.05 | | 0.80 - 1.20 |
| PT INDEX<br>*by PHOTO OPTICAL CLOT DETECTION* | 96 | % | |

***INTERPRETATION:-***

1.INR is the parameter of choice in monitoring adequacy of oral anti-coagulant therapy. Appropiate therapeutic range varies with the disease and treatment intensity.
2. Prolonged INR suggests potential bleeding disorder /bleeding complications
3. Results should be clinically correlated.
4. *Test conducted on Citrated Plasma*

| RECOMMENDED THERAPEUTIC RANGE FOR ORAL ANTI-COAGULANT THERAPY (INR) | | |
|---|---|---|
| **INDICATION** | | **INTERNATIONAL NORMALIZED RATIO (INR)** |
| Treatment of venous thrombosis | Low Intensity | 2.0 - 3.0 |
| Treatment of pulmonary embolism | | |
| Prevention of systemic embolism in tissue heart valves | | |
| Valvular heart disease | | |
| Acute myocardial infarction | | |
| Atrial fibrillation | | |
| Bileaflet mechanical valve in aortic position | | |
| Recurrent embolism | High Intensity | 2.5 - 3.5 |
| Mechanical heart valve | | |
| Antiphospholipid antibodies+ | | |

**COMMENTS:**

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The prothrombin time (PT) and its derived measures of prothrombin ratio (PR) and international normalized ratio (INR) are measures of the efficacy of the extrinsic pathway of coagulation. PT test reflects the adequacy of factors I (fibrinogen), II (prothrombin), V, VII, and X. It is used in conjunction with the activated partial thromboplastin time (aPTT) which measures the intrinsic pathway.
The common causes of prolonged prothrombin time are :
1.Oral Anticoagulant therapy.
2.Liver disease.
3.Vit K. deficiency.
4.Disseminated intra vascular coagulation.
5.Factor 5, 7 , 10 or Prothrombin dificiency

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## IMMUNOPATHOLOGY/SEROLOGY

### HEPATITIS C VIRUS (HCV) ANTIBODIES SCREENING

| | | | |
|---|---|---|---|
| HEPATITIS C ANTIBODY (HCV) TOTAL RESULT<br>*by IMMUNOCHROMATOGRAPHY* | NON - REACTIVE | | |

***INTERPRETATION:***

1.Anti HCV total antibody assay identifies presence IgG antibodies in the serum . It is a useful screening test with a specificity of nearly 99%.
2.It becomes positive approximately 24 weeks after exposure. The test can not isolate an active ongoing HCV infection from an old infection that has been cleared. All positive results must be confirmed for active disease by an HCV PCR test .

**FALSE NEGATIVE RESULTS SEEN IN:**

1.Window period
2.Immunocompromised states.

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## ANTI HUMAN IMMUNODEFICIENCY VIRUS (HIV) ANTIBODIES HIV (1 & 2) SCREENING

HIV 1/2 AND P24 ANTIGEN RESULT — NON - REACTIVE

*by IMMUNOCHROMATOGRAPHY*

***INTERPRETATION:-***

1.AIDS is caused by at least 2 known types of HIV viruses, HIV-1 and HIV HIV-2.
2.This NACO approved immuno-chromatographic solid phase ELISA assay detects antibodies against both HIV-1 and HIV-2 viruses.
3.The test is used for routine serologic screening of patients at risk for HIV-1 or HIV-2 infection.
4.All screening ELISA assays for HIV antibody detection have high sensitivity but have low specificity.
5.At this laboratory, all positive samples are cross checked for positivity with two alternate assays prior to reporting.

**NOTE:-**

1.Confirmatory testing by Western blot is recommended for patients who are reactive for HIV by this assay.
2.Antibodies against HIV-1 and HIV-2 are usually not detectable until 6 to 12 weeks following exposure (window period) and are almost always detectable by 12 months.
3.The test is not recommended for children born to HIV infected mothers till the child turns two years old (as HIV antibodies may be transmitted passively to the child trans-placentally).

**FALSE NEGATIVE RESULT SEEN IN:**

1.Window period
2.Severe immuno-suppression including advanced AIDS.

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## HEPATITIS B SURFACE ANTIGEN (HBsAg) SCREENING

| | | | |
|---|---|---|---|
| HEPATITIS B SURFACE ANTIGEN (HBsAg) RESULT<br>*by IMMUNOCHROMATOGRAPHY* | NON - REACTIVE | | |

***INTERPRETATION:-***

1.HBsAG is the first serological marker of HBV infection to appear in the blood (approximately 30-60 days after infection and prior to the onset of clinical disease). It is also the last viral protein to disappear from blood and usually disappears by three months after infection in self limiting acute Hepatitis B viral infection.

2.Persistence of HBsAg in blood for more than six months implies chronic infection. It is the most common marker used for diagnosis of an acute Hepatitis B infection but has very limited role in assessing patients suffering from chronic hepatitis.

**FALSE NEGATIVE RESULT SEEN IN:**

1.Window period.

2.Infection with HBsAg mutant strains

3.Hepatitis B Surface antigen (HBsAg) is the earliest indicator of HBV infection. Usually it appears in 27 - 41 days (as early as 14 days).

4.Appears 7 - 26 days before biochemical abnormalities. Peaks as ALT rises. Persists during the acute illness. Usually disappears 12- 20 weeks after the onset of symptoms / laboratory abnormalities in 90% of cases.

5.Is the most reliable serologic marker of HBV infection. Persistence > 6 months defines carrier state. May also be found in chronic infection.Hepatitis B vaccination does not cause a positive HBsAg. Titers are not of clinical value.

**NOTE:-**

1.All reactive HBsAG Should be reconfirmed with neutralization test(HBsAg confirmatory test).

2.Anti - HAV IgM appears at the same time as symptoms in > 99% of cases, peaks within the first month, becomes nondetectable in 12 months (usually 6 months). Presence confirms diagnosis of recent acute infection.

*** End Of Report ***

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