Dr. Vinay Chopra
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NAME	**: Mr. GOVINDER PAL SINGH**		
AGE/ GENDER	: 65 YRS/MALE	**PATIENT ID**	: 1540346
COLLECTED BY	:	**REG. NO./LAB NO.**	**: 012407060043**
REFERRED BY	:	**REGISTRATION DATE**	: 06/Jul/2024 02:16 PM
BARCODE NO.	: 01512636	**COLLECTION DATE**	: 06/Jul/2024 02:17PM
CLIENT CODE.	: KOS DIAGNOSTIC LAB	**REPORTING DATE**	: 06/Jul/2024 02:54PM
CLIENT ADDRESS	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval

HAEMATOLOGY

HAEMOGLOBIN (HB)

HAEMOGLOBIN (HB) *by CALORIMETRIC*	**11.5**[L]	**gm/dL**	**12.0 - 17.0**

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 Name	Value	Unit	Biological Reference interval

GLYCOSYLATED HAEMOGLOBIN (HBA1C)

GLYCOSYLATED HAEMOGLOBIN (HbA1c): WHOLE BLOOD *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	**7.4^{H}**	**%**	**4.0 - 6.4**
ESTIMATED AVERAGE PLASMA GLUCOSE *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	**165.68^{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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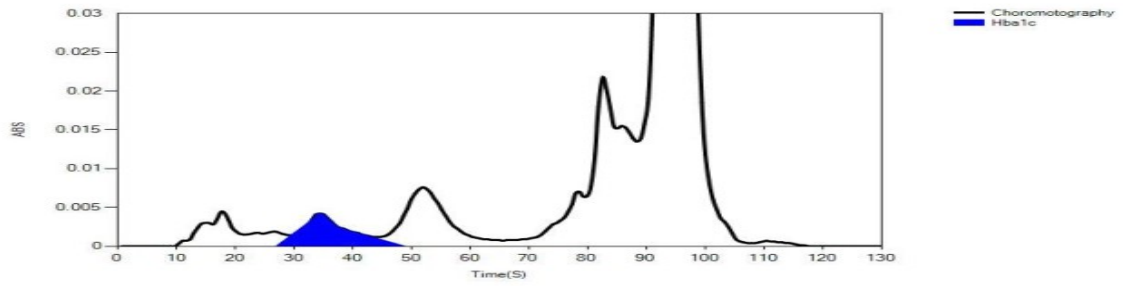
Test Name	Value	Unit	Biological Reference interval

LIFOTRONIC Graph Report

Name :	Case :	Patient Type :		Test Date : 06/07/2024 15:41:00
Age :	Department :	Sample Type : Whole Blood EDTA		Sample Id : 01512636
Gender :				Total Area : 10149

Peak Name	Retention Time(s)	Absorbance	Area	Result (Area %)
HbA0	70	2414	8805	83.3
HbA1c	38	76	781	7.4
La1c	25	42	318	3.0
HbF	19	19	23	0.2
Hba1b	13	46	125	1.2
Hba1a	11	30	97	0.9



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CLIENT ADDRESS	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

CLINICAL CHEMISTRY/BIOCHEMISTRY

LIPID PROFILE : BASIC

Test Name	Value	Unit	Biological Reference interval
CHOLESTEROL TOTAL: SERUM *by CHOLESTEROL OXIDASE PAP*	135.1	mg/dL	OPTIMAL: < 200.0 BORDERLINE HIGH: 200.0 - 239.0 HIGH CHOLESTEROL: > OR = 240.0
TRIGLYCERIDES: SERUM ***by GLYCEROL PHOSPHATE OXIDASE (ENZYMATIC)***	**467.32^{H}**	**mg/dL**	**OPTIMAL: < 150.0** **BORDERLINE HIGH: 150.0 - 199.0** **HIGH: 200.0 - 499.0** **VERY HIGH: > OR = 500.0**
HDL CHOLESTEROL (DIRECT): SERUM ***by SELECTIVE INHIBITION***	**29.87^{L}**	**mg/dL**	**LOW HDL: < 30.0** **BORDERLINE HIGH HDL: 30.0 - 60.0** **HIGH HDL: > OR = 60.0**
LDL CHOLESTEROL: SERUM *by CALCULATED, SPECTROPHOTOMETRY*	NOT CALCULATED	mg/dL	OPTIMAL: < 100.0 ABOVE OPTIMAL: 100.0 - 129.0 BORDERLINE HIGH: 130.0 - 159.0 HIGH: 160.0 - 189.0 VERY HIGH: > OR = 190.0
VLDL CHOLESTEROL: SERUM *by CALCULATED, SPECTROPHOTOMETRY*	NOT CALCULATED	mg/dL	0.00 - 45.00
TOTAL LIPIDS: SERUM *by CALCULATED, SPECTROPHOTOMETRY*	NOT CALCULATED	mg/dL	350.00 - 700.00
CHOLESTEROL/HDL RATIO: SERUM ***by CALCULATED, SPECTROPHOTOMETRY***	**4.52^{H}**	**RATIO**	**LOW RISK: 3.30 - 4.40** **AVERAGE RISK: 4.50 - 7.0** **MODERATE RISK: 7.10 - 11.0** **HIGH RISK: > 11.0**
LDL/HDL RATIO: SERUM *by CALCULATED, SPECTROPHOTOMETRY*	NOT CALCULATED	RATIO	LOW RISK: 0.50 - 3.0 MODERATE RISK: 3.10 - 6.0 HIGH RISK: > 6.0
TRIGLYCERIDES/HDL RATIO: SERUM ***by CALCULATED, SPECTROPHOTOMETRY***	**15.65^{H}**	**RATIO**	**3.00 - 5.00**
NOTE 2	WHEN TRIGLYCERIDES VALUE >400 mg/dL THE CALCULATED VALUES OF LDL AND		

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Test Name	Value	Unit	Biological Reference interval

VLDL ARE NOT RELIABLE

INTERPRETATION:

1.Measurements in the same patient can show physiological& analytical variations. Three serial samples 1 week apart are recommended for Total Cholesterol, Triglycerides, HDL & LDL Cholesterol.
2. As per NLA-2014 guidelines, all adults above the age of 20 years should be screened for lipid status. Selective screening of children above the age of 2 years with a family history of premature cardiovascular disease or those with at least one parent with high total cholesterol is recommended.
3. Low HDL levels are associated with increased risk for Atherosclerotic Cardiovascular disease (ASCVD) due to insufficient HDL being available to participate in reverse cholesterol transport, the process by which cholesterol is eliminated from peripheral tissues.
4. NLA-2014 identifies Non HDL Cholesterol (an indicator of all atherogeniclipoproteins such as LDL , VLDL, IDL, Lpa, Chylomicron remnants) along with LDL-cholesterol as co- primary target for cholesterol lowering therapy. Note that major risk factors can modify treatment goals for LDL &Non HDL.
5. Additional testing for Apolipoprotein B, hsCRP,Lp(a) & LP-PLA2 should be considered among patients with moderate risk for ASCVD for risk refinement

RECHECKED.

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Test Name	Value	Unit	Biological Reference interval
UREA			
UREA: SERUM *by UREASE - GLUTAMATE DEHYDROGENASE (GLDH)*	40.91	mg/dL	10.00 - 50.00

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Test Name	Value	Unit	Biological Reference interval
	CREATININE		
CREATININE: SERUM *by ENZYMATIC, SPECTROPHOTOMETRY*	**1.95^{H}**	**mg/dL**	**0.40 - 1.40**

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Test Name	Value	Unit	Biological Reference interval

CLINICAL PATHOLOGY

MICROALBUMIN/CREATININE RATIO - RANDOM URINE

MICROALBUMIN: RANDOM URINE *by SPECTROPHOTOMETRY*	**297.42^{H}**	**mg/L**	**0 - 25**
CREATININE: RANDOM URINE *by SPECTROPHOTOMETRY*	73.36	mg/dL	20 - 320
MICROALBUMIN/CREATININE RATIO - RANDOM URINE *by SPECTROPHOTOMETRY*	**405.43^{H}**	**mg/g**	**0 - 30**

INTERPRETATION:-

PHYSIOLOGICALLY NORMAL:	mg/L	0 - 30
MICROALBUMINURIA:	mg/L	30 - 300
GROSS PROTEINURIA:	mg/L	> 300

Long standing un-treated Diabetes and Hypertension can lead to renal dysfunction.
2. Diabetic nephropathy or kidney disease is the most common cause of end stage renal disease(ERSD) or kidney failure.
3. Presence of Microalbuminuria is an early indicator of onset of compromised renal function in these patients.
4.Microalbuminuria is the condition when urinary albumin excre tion is between 30-300 mg & above this it is called as macroalbuminuria, the presence of which indicates serious kidney disease.
5.Microalbuminuria is not only associated with kidney disease but of cardiovascular disease in patients with dibetes & hypertension.
6.Microalbuminuria reflects vascular damage & appear to be a marker of of early arterial disease & endothelial dysfunction.
NOTE:- *IF A PATIENT HAS = 1+ PROTEINURIA (30 mg/dl OR 300 mg/L) BY URINE DIPSTICK (URINEANALYSIS), OVERT PROTEINURIA IS PRESENT AND TESTING FOR MICROALBUMIN IS INAPPROPIATE. IN SUCH A CASE, URINE PROTEIN:CREATININE RATIO OR 24 HOURS TOTAL URINE MICROPROTEIN IS APPROPIATE.*

Rechecked

*** End Of Report ***

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