NAME	**: Mr. CHARAN DASS**		
AGE/ GENDER	: 55 YRS/MALE	**PATIENT ID**	: 1611710
COLLECTED BY	:	**REG. NO./LAB NO.**	**: 012409130036**
REFERRED BY	:	**REGISTRATION DATE**	: 13/Sep/2024 11:42 AM
BARCODE NO.	: 01516885	**COLLECTION DATE**	: 13/Sep/2024 11:46AM
CLIENT CODE.	: KOS DIAGNOSTIC LAB	**REPORTING DATE**	: 13/Sep/2024 02:45PM
CLIENT ADDRESS	: 6349/1, NICHOLSON ROAD, AMBALA CANTT		

Test Name	Value	Unit	Biological Reference interval

HAEMATOLOGY

GLYCOSYLATED HAEMOGLOBIN (HBA1C)

GLYCOSYLATED HAEMOGLOBIN (HbA1c): WHOLE BLOOD *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	6	%	4.0 - 6.4
ESTIMATED AVERAGE PLASMA GLUCOSE *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	125.5	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 HbAlc. 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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PROTHROMBIN TIME STUDIES (PT/INR)

Test Name	Value	Unit	Biological Reference interval
PT TEST (PATIENT) *by PHOTO OPTICAL CLOT DETECTION*	**27.5^{H}**	**SECS**	**11.5 - 14.5**
PT (CONTROL) *by PHOTO OPTICAL CLOT DETECTION*	12	SECS	
ISI *by PHOTO OPTICAL CLOT DETECTION*	1.1		
INTERNATIONAL NORMALISED RATIO (INR) *by PHOTO OPTICAL CLOT DETECTION*	**2.49^{H}**		**0.80 - 1.20**
PT INDEX *by PHOTO OPTICAL CLOT DETECTION*	43.64	%	

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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Test Name	Value	Unit	Biological Reference interval

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

RECHECKED.Correlate with clinical & drug history

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Test Name	Value	Unit	Biological Reference interval

ACTIVATED PARTIAL THROMBOPLASTIN TIME (APTT)

APTT (PATIENT VALUE) *by PHOTO OPTICAL CLOT DETECTION*	31	SECS	28.6 - 38.2

INTERPRETATION:-

The activated partial thromboplastin time (aPTT or APTT) is a performance indicator measuring the efficacy of both the **intrinsic** (now referred to as the contact activation pathway) and the common coagulation pathways. Apart from detecting abnormalities in blood clotting, it is also used to monitor the treatment effects with heparin, a major anticoagulant. It is used in conjunction with the prothrombin time (PT) which measures the extrinsic pathway.

COMMON CAUSES OF PROLONGED APTT :-

1. Disseminated intravascular coagulation.
2. Liver disease.
3. Massive transfusion with stored blood.
4. Heparin administration or contamination.
5. A circulating Anticogulant.
6. Deficiency of a coagulation Factor other than factor 7.

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Test Name	Value	Unit	Biological Reference interval

CLINICAL CHEMISTRY/BIOCHEMISTRY

GLUCOSE FASTING (F)

GLUCOSE FASTING (F): PLASMA *by GLUCOSE OXIDASE - PEROXIDASE (GOD-POD)*	**106.86^{H}**	**mg/dL**	**NORMAL: < 100.0** **PREDIABETIC: 100.0 - 125.0** **DIABETIC: > 0R = 126.0**

INTERPRETATION

IN ACCORDANCE WITH AMERICAN DIABETES ASSOCIATION GUIDELINES:

1. A fasting plasma glucose level below 100 mg/dl is considered normal.
2. A fasting plasma glucose level between 100 - 125 mg/dl is considered as glucose intolerant or prediabetic. A fasting and post-prandial blood test (after consumption of 75 gms of glucose) is recommended for all such patients.
3. A fasting plasma glucose level of above 125 mg/dl is highly suggestive of diabetic state. A repeat post-prandial is strongly recommended for all such patients. A fasting plasma glucose level in excess of 125 mg/dl on both occasions is confirmatory for diabetic state.

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Test Name	Value	Unit	Biological Reference interval
	LIPID PROFILE : BASIC		
CHOLESTEROL TOTAL: SERUM *by CHOLESTEROL OXIDASE PAP*	108.32	mg/dL	OPTIMAL: < 200.0 BORDERLINE HIGH: 200.0 - 239.0 HIGH CHOLESTEROL: > OR = 240.0
TRIGLYCERIDES: SERUM *by GLYCEROL PHOSPHATE OXIDASE (ENZYMATIC)*	62.59	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*	45.9	mg/dL	LOW HDL: < 30.0 BORDERLINE HIGH HDL: 30.0 - 60.0 HIGH HDL: > OR = 60.0
LDL CHOLESTEROL: SERUM *by CALCULATED, SPECTROPHOTOMETRY*	49.9	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
NON HDL CHOLESTEROL: SERUM *by CALCULATED, SPECTROPHOTOMETRY*	62.42	mg/dL	OPTIMAL: < 130.0 ABOVE OPTIMAL: 130.0 - 159.0 BORDERLINE HIGH: 160.0 - 189.0 HIGH: 190.0 - 219.0 VERY HIGH: > OR = 220.0
VLDL CHOLESTEROL: SERUM *by CALCULATED, SPECTROPHOTOMETRY*	12.52	mg/dL	0.00 - 45.00
TOTAL LIPIDS: SERUM ***by CALCULATED, SPECTROPHOTOMETRY***	**279.23**[L]	**mg/dL**	**350.00 - 700.00**
CHOLESTEROL/HDL RATIO: SERUM *by CALCULATED, SPECTROPHOTOMETRY*	2.36	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*	1.09	RATIO	LOW RISK: 0.50 - 3.0 MODERATE RISK: 3.10 - 6.0 HIGH RISK: > 6.0

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Test Name	Value	Unit	Biological Reference interval
TRIGLYCERIDES/HDL RATIO: SERUM ***by CALCULATED, SPECTROPHOTOMETRY***	**1.36^{L}**	**RATIO**	**3.00 - 5.00**

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

*** End Of Report ***

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