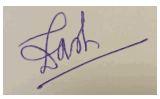
DIAGNOSTICS REPORT

Patient Name	: Mr. MUTHURAMAN MV	Order Date	: 26/11/2022 09:24
Age/Sex	: 52 Year(s)/Male	Report Date	: 26/11/2022 13:12
UHID	: SHHM.53365	IP No	:
Ref. Doctor	: Self	Facility	: SEVENHILLS HOSPITAL, MUMBAI

Normal LV and RV systolic function.
Estimated LVEF = 60%
No LV regional wall motion abnormality at rest .
AII valves are structurally and functionally normal.
Normal sized cardiac chambers.
No LV Diastolic dysfunction .
No pulmonary arterial hypertension.
No regurgitation across any other valves.
Normal forward flow velocities across all the cardiac valves.
Aorta and pulmonary artery dimensions: normal.
IAS / IVS: Intact.
No evidence of clot, vegetation, calcification, pericardial effusion.
COLOUR DOPPLER: NO MR/AR



Dr.Jayashree Dash ,

(Junior Consultant NIC)

RegNo: 3393/09/2003

LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
Episode	: OP		
Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

Blood Bank

Test Name	Result

Sample No : O0250405A Collection Date : 26/11/22 09:33 Ack Date : 26/11/2022 10:24 Report Date : 26/11/22 13:09

BLOOD GROUPING (ABO+RH) BY COLUMN AGGLUTINATION METHOD

BLOOD GROUP (ABO)	' O '
Rh Type	POSITIVE

REMARK :- The reported results pertain to the sample re

Interpretation :
Blood typing is used to determine an individual's blood group, to establish whether a person is blood group A, B, AB, or O and whether he or she is Rh positive or Rh negative. Blood typing has the following significance,
• Ensure compatibility between the blood type of a person who requires a transfusion of blood or blood components and the ABO and Rh type of the unit of blood that will be transfused.
• Determine compatibility between a pregnant woman and her developing baby (fetus). Rh typing is especially important during pregnancy because a mother and her fetus could be incompatible.
• Determine the blood group of potential blood donors at a collection facility.
• Determine the blood group of potential donors and recipients of organs, tissues, or bone marrow, as part of a workup for a transplant procedure.

End of Report

Dr.Ritesh Kharche
MD, PGD
HOD, Laboratory Medicine Dept.

RegNo: 2006/03/1680

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LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
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Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

HAEMATOLOGY

Sample No : O0250405A | Collection Date : 26/11/22 09:33 | Ack Date : 26/11/2022 10:04 | Report Date : 26/11/22 10:39

COMPLETE BLOOD COUNT (CBC) - EDTA WHOLE BLOOD

Test Name	Result	Unit	Ref. Range
Total WBC Count	6.04	x10^3/ul	4.00 - 10.00
Neutrophils	67.4	%	40.00 - 80.00
Lymphocytes	23.7	%	20.00 - 40.00
Eosinophils	1.7	%	1.00 - 6.00
Monocytes	7.2	%	2.00 - 10.00
Basophils	**0.0 ▼**	%	1.00 - 2.00
Absolute Neutrophils Count	4.07	x10^3/ul	2.00 - 7.00
Absolute Lymphocytes Count	1.43	x10^3/ul	0.80 - 4.00
Absolute Eosinophils Count	0.10	x10^3/ul	0.02 - 0.50
Absolute Monocytes Count	0.44	x10^3/ul	0.12 - 1.20
Absolute Basophils Count	0.00	x10^3/ul	0.00 - 0.10
RBCs	**5.98 ▲**	x10^6/ul	4.50 - 5.50
Haemoglobin	16.7	gm/dl	13.00 - 17.00
Hematocrit	49.6	%	40.00 - 50.00
MCV	83.0	fl	83.00 - 101.00
MCH	28.0	pg	27.00 - 32.00
MCHC	33.8	gm/dl	31.50 - 34.50

LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
Episode	: OP		
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		Facility	: SEVENHILLS HOSPITAL, MUMBAI

RED CELL DISTRIBUTION WIDTH-CV (RDW-CV)	13.5	%	11.00 - 16.00
RED CELL DISTRIBUTION WIDTH-SD (RDW-SD)	42.6	fl	35.00 - 56.00
Platelet	241	x10^3/ul	150.00 - 410.00
MPV	8.7	fl	6.78 - 13.46
PLATELET DISTRIBUTION WIDTH (PDW)	16.0	%	9.00 - 17.00
PLATELETCRIT (PCT)	0.209	%	0.11 - 0.28

NOTE: References are from "Interpretations of Diagnostic Tests" by Wallach & "Fundamentals of Clinical Chemistry" By Tietz

NOTE :-
The International Council for Standardization in Haematology (ICSH) recommends reporting of absolute counts of various WBC subsets for clinical decision making.This test has been performed on a fully automated 5 part differential cell counter which counts over 10,000 WBCs to derive differential counts. A complete blood count is a blood panel that gives information about the cells in a patient's blood, such as the cell count for each cell type and the concentrations of Hemoglobin and platelets. The cells that circulate in the bloodstream are generally divided into three types: white blood cells (leukocytes), red blood cells (erythrocytes), and platelets (thrombocytes). Abnormally high or low counts may be physiological or may indicate disease conditions, and hence need to be interpreted clinically.

ERYTHROCYTE SEDIMENTATION RATE (ESR)

ESR	18	mm/hr	0 - 20

Method: Westergren Method

INTERPRETATION :-
ESR is a non-specific phenomenon, its measurement is clinically useful in disorders associated with an increased production of acute-phase proteins. it provides an index of progress of the disease in rheumatoid arthritis or tuberculosis, and it is of considerable value in diagnosis of temporal arteritis and polymyalgia rheumatica. It is often used if multiple myeloma is suspected, but when the myeloma is non-secretory or light chain, a normal ESR does not exclude this diagnosis.

An elevated ESR occurs as an early feature in myocardial infarction. Although a normal ESR cannot be taken to exclude the presence of organic disease, the vast majority of acute or chronic infections and most neoplastic and degenerative diseases are associated with changes in the plasma proteins that increased ES values. An increased ESR in subjects who are HIV seropositive seems to be an early predictive marker of progression toward acquired immune deficiency syndrome (AIDS).

The ESR is influenced by age, stage of the menstrual cycle and medications taken (corticosteroids, contraceptive pills). It is especially low (0–1 mm) in polycythaemia, hypofibrinogenaemia and congestive cardiac failure and when there are abnormalities of the red cells such as poikilocytosis, spherocytosis, or sickle cells. In cases of performance enhancing drug intake by athletes the ESR values are generally lower than the usual value for the individual and as a result of the increase in haemoglobin (i.e. the effect of secondary polycythaemia).

LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
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Episode	: OP		
Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

End of Report

Dr.Ritesh Kharche
MD, PGD
HOD, Laboratory Medicine Dept.

RegNo: 2006/03/1680

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LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
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Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

Stool Examination

Test Name	Result

Sample No : O0250405D Collection Date : 26/11/22 09:33 Ack Date : 26/11/2022 09:59 Report Date : 26/11/22 15:36

Gross and Chemical Examination

Consistency	Semi-Solid
COLOUR STOOL	Brown
Visible Blood	Absent
Mucus	Absent
Occult Blood	NEGATIVE

Microscopic Examination

Puscells	OCCASIONAL
RBC	OCCASIONAL
Epithelial Cells	OCCASIONAL
Parasites	Present

End of Report

Dr.Ritesh Kharche
MD, PGD
HOD, Laboratory Medicine Dept.
RegNo: 2006/03/1680
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LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
Episode	: OP		
Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

Biochemistry

Test Name	Result	Unit	Ref. Range

Sample No : O0250405A | Collection Date : 26/11/22 09:33 | Ack Date : 26/11/2022 10:04 | Report Date : 26/11/22 10:57

GLYCOSLYATED HAEMOGLOBIN (HBA1C)

HbA1c *Method - BIOCHEMISTRY*	**6.49 ▲**	%	4 to 6% Non-diabetic 6.0--7.0% Excellent control 7.0--8.0% Fair to good control 8.0--10% Unsatisfactory control ABOVE 10% Poor control
Estimated Average Glucose (eAG) *Method - Calculated*	**139.56 ▲**	mg/dl	90 - 126

NOTES :-
1. HbA1c is used for monitoring diabetic control. It reflects the mean plasma glucose over three months
2. HbA1c may be falsely low in diabetics with hemolytic disease. In these individuals a plasma fructosamine level may be used which evaluates diabetes over 15 days.
3. Inappropriately low HbA1c values may be reported due to hemolysis, recent blood transfusion, acute blood loss, hypertriglyceridemia, chronic liver disease.Drugs like dapsone, ribavirin, antiretroviral drugs, trimethoprim, may also cause interference with estimation of HbA1c, causing falsely low values.
4. HbA1c may be increased in patients with polycythemia or post-splenectomy.
5. Inappropriately higher values of HbA1c may be caused due to iron deficiency, vitamin B12 deficiency, alcohol intake, uremia, hyperbilirubinemia and large doses of aspirin.
6. Trends in HbA1c are a better indicator of diabetic control than a solitary test.
7. Any sample with >15% HbA1c should be suspected of having a hemoglobin variant, especially in a non-diabetic patient. Similarly, below 4% should prompt additional studies to determine the possible presence of variant hemoglobin.
8. HbA1c target in pregnancy is to attain level <6 % .
9. HbA1c target in paediatric age group is to attain level < 7.5 %.
Method : turbidimetric inhibition immunoassay (TINIA) for hemolyzed whole blood
Reference : American Diabetes Associations. Standards of Medical Care in Diabetes 2015

Sample No : O0250405B | Collection Date : 26/11/22 09:33 | Ack Date : 26/11/2022 10:11 | Report Date : 26/11/22 10:47

GLUCOSE-PLASMA-FASTING

Glucose,Fasting	108.9	mg/dl	70 - 110

LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
Episode	: OP		
Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

American Diabetes Association Reference Range :

Normal : < 100 mg/dl
Impaired fasting glucose(Prediabetes) : 100 - 126 mg/dl
Diabetes : >= 126 mg/dl

References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular Diagnostics
Edited by: Carl A.burtis, Edward R. Ashwood,David e. Bruns

Interpretation :-
Conditions that can result in an elevated blood glucose level include: Acromegaly, Acute stress (response to trauma, heart attack,and stroke for instance), Chronic kidney disease, Cushing syndrome, Excessive consumption of food, Hyperthyroidism,Pancreatitis.
A low level of glucose may indicate hypoglycemia, a condition characterized by a drop in blood glucose to a level where first it causes nervous system symptoms (sweating, palpitations, hunger, trembling, and anxiety), then begins to affect the brain (causing confusion, hallucinations, blurred vision, and sometimes even coma and death). A low blood glucose level (hypoglycemia) may be seen with:Adrenal insufficiency, Drinking excessive alcohol, Severe liver disease, Hypopituitarism, Hypothyroidism, Severe infections, Severe heart failure, Chronic kidney (renal) failure, Insulin overdose, Tumors that produce insulin (insulinomas),Starvation.

Sample No : O0250405C Collection Date : 26/11/22 09:33 Ack Date : 26/11/2022 10:09 Report Date : 26/11/22 12:40

Lipid Profile

Total Cholesterol	171.0	mg/dl	Reference Values : Up to 200 mg/dL - Desirable 200-239 mg/dL - Borderline HIgh >240 mg/dL - High
Triglycerides *Method - Enzymatic*	115.4	mg/dl	Reference Values: Up to 150 mg/dL - Normal 150-199 mg/dL - Borderline High 200-499 mg/dL - High >500 mg/dL - Very High
HDL Cholesterol *Method - Enzymatic immuno inhibition*	49.5	mg/dl	0 - 60
LDL Cholesterol *Method - Calculated*	98.42	mg/dl	0 - 130
VLDL Cholesterol *Method - Calculated*	23.08	mg/dl	0 - 40
Total Cholesterol / HDL Cholesterol Ratio - Calculated *Method - Calculated*	3.45	RATIO	0 - 5

LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
Episode	: OP		
Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

LDL / HDL Cholesterol Ratio - Calculated *Method - Calculated*	1.99	RATIO	0 - 4.3

References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular DiagnosticsEdited by: Carl A.burtis,Edward R. Ashwood,David e. Bruns

Interpretation
1.Triglycerides: When triglycerides are very high greater than 1000 mg/dL, there is a risk of developing pancreatitis in children and adults. Triglycerides change dramatically in response to meals, increasing as much as 5 to 10 times higher than fasting levels just a few hours after eating. Even fasting levels vary considerably day to day. Therefore, modest changes in fasting triglycerides measured on different days are not considered to be abnormal.
2. HDL-Cholesterol: HDL- C is considered to be beneficial, the so-called "good" cholesterol, because it removes excess cholesterol from tissues and carries it to the liver for disposal. If HDL-C is less than 40 mg/dL for men and less than 50 mg/dL for women, there is an increased risk of heart disease that is independent of other risk factors, including the LDL-C level. The NCEP guidelines suggest that an HDL cholesterol value greater than 60 mg/dL is protective and should be treated as a negative risk factor.
3. LDL-Cholesterol: Desired goals for LDL-C levels change based on individual risk factors. For young adults, less than 120 mg/dL is acceptable. Values between 120-159 mg/dL are considered Borderline high. Values greater than 160 mg/dL are considered high. Low levels of LDL cholesterol may be seen in people with an inherited lipoprotein deficiency and in people with hyperthyroidism, infection, inflammation, or cirrhosis.

Uric Acid (Serum)

Uric Acid *Method - Uricase*	5.9	mg/dl	3.5 - 7.2

References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular DiagnosticsEdited by: Carl A.burtis,Edward R. Ashwood,David e. Bruns

Interpretation:-
Uric acid is produced by the breakdown of purines. Purines are nitrogen-containing compounds found in the cells of the body, including our DNA. Increased concentrations of uric acid can cause crystals to form in the joints, which can lead to the joint inflammation and pain characteristic of gout. Low values can be associated with some kinds of liver or kidney diseases, Fanconi syndrome, exposure to toxic compounds, and rarely as the result of an inherited metabolic defect (Wilson disease).

Liver Function Test (LFT)

SGOT (Aspartate Transaminase) - SERUM *Method - IFCC*	23.1	U/L	0 - 35
SGPT (Alanine Transaminase) - SERUM *Method - IFCC*	34.1	U/L	0 - 45
Total Bilirubin - SERUM *Method - Diazo*	0.57	mg/dl	0 - 2
Direct Bilirubin - - SERUM *Method - Diazotization*	0.2	mg/dl	0 - 0.4
Indirect Bilirubin - Calculated *Method - Calculated*	0.37	mg/dl	0.1 - 0.8

LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
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Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

Alkaline Phosphatase - SERUM *Method - IFCC AMP Buffer*	104	U/L	0 - 115
Total Protein - SERUM *Method - Biuret*	7.33	gm/dl	6 - 7.8
Albumin - SERUM *Method - Bromo Cresol Green(BCG)*	4.48	gm/dl	3.5 - 5.2
Globulin - Calculated *Method - Calculated*	2.85	gm/dl	2 - 4
A:G Ratio *Method - Calculated*	1.57	:1	1 - 3
Gamma Glutamyl Transferase (GGT) - Gglutamyl carboxy nitroa *Method - G glutamyl carboxy nitroanilide*	**68 ▲**	U/L	0 - 55

References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular DiagnosticsEdited by: Carl A.burtis,Edward R. Ashwood,David e. Bruns

Interperatation :-
Bilirubin is a yellowish pigment found in bile and is a breakdown product of normal heme catabolism. Elevated levels results from increased bilirubin production (eg hemolysis and ineffective erythropoiesis); decreased bilirubin excretion (eg; obstruction and hepatitis); and abnormal bilirubin metabolism (eg; hereditary and neonatal jaundice).conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin when there is some kind of blockage of the bile ducts like in Gallstonesgetting into the bile ducts tumors & Scarring of the bile ducts. Increased unconjugated (indirect) bilirubin may be a result of hemolytic or pernicious anemia, transfusion reaction & a common metabolic condition termed Gilbert syndrome.
AST levels increase in viral hepatitis, blockage of the bile duct ,cirrhosis of the liver, liver cancer, kidney failure, hemolytic anemia, pancreatitis, hemochromatosis.Ast levels may also increase after a heart attck or strenuous activity. ALT is commonly measured as a part of a diagnostic evaluation of hepatocellular injury, to determine liver health. Elevated ALP levels are seen in Biliary Obstruction, Osteoblastic Bone Tumors, Osteomalacia, Hepatitis, Hyperparathyriodism, Leukemia,Lymphoma, paget`s disease, Rickets, Sarcoidosis etc.
Elevated serum GGT activity can be found in diseases of the liver, Biliary system and pancreas. Conditions that increase serum GGT are obstructive liver disease,high alcohol consumption and use of enzyme-including drugs etc.
Serum total protein, also known as total protein, is a biochemical test for measuring the total amount of protein in serum..Protein in the plasma is made up of albumin and globulin. Higher-than-normal levels may be due to: Chronic inflammation or infection, including HIV and hepatitis B or C, Multiple myeloma,Waldenstrom's disease. Lower-than-normal levels may be due to: Agammaglobulinemia, Bleeding (hemorrhage), Burns, Glomerulonephritis, Liver disease, Malabsorption, Malnutrition, Nephrotic - Human serum albumin is the most abundant protein in human blood plasma. It is produced in the liver.Albumin constitutes about half of the blood serum protein. Low blood albumin levels (hypoalbuminemia) can be caused by: Liver disease like cirrhosis of the liver, nephrotic syndrome, protein-losing enteropathy, Burns, hemodilution, increased vascular permeability or decreased lymphatic clearance, malnutrition and wasting etc.

Renal Function Test (RFT)

Urea - SERUM *Method - Urease*	19.8	mg/dl	15 - 39
BUN - SERUM *Method - Urease-GLDH*	9.2	mg/dl	4 - 18
Creatinine - SERUM *Method - Jaffes Kinetic*	1.0	mg/dl	0.5 - 1.3

LABORATORY INVESTIGATION REPORT

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Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular DiagnosticsEdited by: Carl A.burtis, Edward R. Ashwood, David e. Bruns

Interpretation:-
The blood urea nitrogen or BUN test is primarily used, along with the creatinine test, to evaluate kidney function in a wide range of circumstances, to help diagnose kidney disease, and to monitor people with acute or chronic kidney dysfunction or failure. It also may be used to evaluate a person's general health status when ordered as part of a renal panel, basic metabolic panel (BMP) or comprehensive metabolic panel (CMP).

Sample No : O0250437B Collection Date : 26/11/22 12:00 Ack Date : 26/11/2022 12:51 Report Date : 26/11/22 13:15

GLUCOSE-PLASMA POST PRANDIAL

Glucose,Post Prandial	136.3	mg/dl	70 - 140

American Diabetes Association Reference Range :

Post-Prandial Blood Glucose:
Non- Diabetic: Up to 140mg/dL
Pre-Diabetic: 140-199 mg/dL
Diabetic :>200 mg/dL

References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular Diagnostics Edited by: Carl A.burtis, Edward R. Ashwood,David e. Bruns

Interpretation :-
Conditions that can result in an elevated blood glucose level include: Acromegaly, Acute stress (response to trauma, heart attack,and stroke for instance), Chronic kidney disease, Cushing syndrome, Excessive consumption of food, Hyperthyroidism,Pancreatitis.
A low level of glucose may indicate hypoglycemia, a condition characterized by a drop in blood glucose to a level where first it causes nervous system symptoms (sweating, palpitations, hunger, trembling, and anxiety), then begins to affect the brain (causing confusion, hallucinations, blurred vision, and sometimes even coma and death). A low blood glucose level (hypoglycemia) may be seen with:Adrenal insufficiency, Drinking excessive alcohol, Severe liver disease, Hypopituitarism, Hypothyroidism, Severe infections, Severe heart failure, Chronic kidney (renal) failure, Insulin overdose, Tumors that produce insulin (insulinomas),Starvation.

End of Report

Dr.Ritesh Kharche
MD, PGD
HOD, Laboratory Medicine Dept.

RegNo: 2006/03/1680

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LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
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Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

Biochemistry

Test Name	Result	Unit	Ref. Range

Sample No : O0250405A | Collection Date : 26/11/22 09:33 | Ack Date : 26/11/2022 10:04 | Report Date : 26/11/22 10:57

GLYCOSLYATED HAEMOGLOBIN (HBA1C)

HbA1c *Method - BIOCHEMISTRY*	**6.49 ▲**	%	4 to 6% Non-diabetic 6.0--7.0% Excellent control 7.0--8.0% Fair to good control 8.0--10% Unsatisfactory control ABOVE 10% Poor control
Estimated Average Glucose (eAG) *Method - Calculated*	**139.56 ▲**	mg/dl	90 - 126

NOTES :-
1. HbA1c is used for monitoring diabetic control. It reflects the mean plasma glucose over three months
2. HbA1c may be falsely low in diabetics with hemolytic disease. In these individuals a plasma fructosamine level may be used which evaluates diabetes over 15 days.
3. Inappropriately low HbA1c values may be reported due to hemolysis, recent blood transfusion, acute blood loss, hypertriglyceridemia, chronic liver disease.Drugs like dapsone, ribavirin, antiretroviral drugs, trimethoprim, may also cause interference with estimation of HbA1c, causing falsely low values.
4. HbA1c may be increased in patients with polycythemia or post-splenectomy.
5. Inappropriately higher values of HbA1c may be caused due to iron deficiency, vitamin B12 deficiency, alcohol intake, uremia, hyperbilirubinemia and large doses of aspirin.
6. Trends in HbA1c are a better indicator of diabetic control than a solitary test.
7. Any sample with >15% HbA1c should be suspected of having a hemoglobin variant, especially in a non-diabetic patient. Similarly, below 4% should prompt additional studies to determine the possible presence of variant hemoglobin.
8. HbA1c target in pregnancy is to attain level <6 % .
9. HbA1c target in paediatric age group is to attain level < 7.5 %.
Method : turbidimetric inhibition immunoassay (TINIA) for hemolyzed whole blood
Reference : American Diabetes Associations. Standards of Medical Care in Diabetes 2015

Sample No : O0250405B | Collection Date : 26/11/22 09:33 | Ack Date : 26/11/2022 10:11 | Report Date : 26/11/22 10:47

GLUCOSE-PLASMA-FASTING

Glucose,Fasting	108.9	mg/dl	70 - 110

LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
Episode	: OP		
Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

American Diabetes Association Reference Range :

Normal : < 100 mg/dl
Impaired fasting glucose(Prediabetes) : 100 - 126 mg/dl
Diabetes : >= 126 mg/dl

References:
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Interpretation :-
Conditions that can result in an elevated blood glucose level include: Acromegaly, Acute stress (response to trauma, heart attack,and stroke for instance), Chronic kidney disease, Cushing syndrome, Excessive consumption of food, Hyperthyroidism,Pancreatitis.
A low level of glucose may indicate hypoglycemia, a condition characterized by a drop in blood glucose to a level where first it causes nervous system symptoms (sweating, palpitations, hunger, trembling, and anxiety), then begins to affect the brain (causing confusion, hallucinations, blurred vision, and sometimes even coma and death). A low blood glucose level (hypoglycemia) may be seen with:Adrenal insufficiency, Drinking excessive alcohol, Severe liver disease, Hypopituitarism, Hypothyroidism, Severe infections, Severe heart failure, Chronic kidney (renal) failure, Insulin overdose, Tumors that produce insulin (insulinomas),Starvation.

Sample No : O0250405C Collection Date : 26/11/22 09:33 Ack Date : 26/11/2022 10:09 Report Date : 26/11/22 12:40

Lipid Profile

Total Cholesterol	171.0	mg/dl	Reference Values : Up to 200 mg/dL - Desirable 200-239 mg/dL - Borderline HIgh >240 mg/dL - High
Triglycerides *Method - Enzymatic*	115.4	mg/dl	Reference Values: Up to 150 mg/dL - Normal 150-199 mg/dL - Borderline High 200-499 mg/dL - High >500 mg/dL - Very High
HDL Cholesterol *Method - Enzymatic immuno inhibition*	49.5	mg/dl	0 - 60
LDL Cholesterol *Method - Calculated*	98.42	mg/dl	0 - 130
VLDL Cholesterol *Method - Calculated*	23.08	mg/dl	0 - 40
Total Cholesterol / HDL Cholesterol Ratio - Calculated *Method - Calculated*	3.45	RATIO	0 - 5

LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
Episode	: OP		
Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

LDL / HDL Cholesterol Ratio - Calculated *Method - Calculated*	1.99	RATIO	0 - 4.3

References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular DiagnosticsEdited by: Carl A.burtis,Edward R. Ashwood,David e. Bruns

Interpretation
1.Triglycerides: When triglycerides are very high greater than 1000 mg/dL, there is a risk of developing pancreatitis in children and adults. Triglycerides change dramatically in response to meals, increasing as much as 5 to 10 times higher than fasting levels just a few hours after eating. Even fasting levels vary considerably day to day. Therefore, modest changes in fasting triglycerides measured on different days are not considered to be abnormal.
2. HDL-Cholesterol: HDL- C is considered to be beneficial, the so-called "good" cholesterol, because it removes excess cholesterol from tissues and carries it to the liver for disposal. If HDL-C is less than 40 mg/dL for men and less than 50 mg/dL for women, there is an increased risk of heart disease that is independent of other risk factors, including the LDL-C level. The NCEP guidelines suggest that an HDL cholesterol value greater than 60 mg/dL is protective and should be treated as a negative risk factor.
3. LDL-Cholesterol: Desired goals for LDL-C levels change based on individual risk factors. For young adults, less than 120 mg/dL is acceptable. Values between 120-159 mg/dL are considered Borderline high. Values greater than 160 mg/dL are considered high. Low levels of LDL cholesterol may be seen in people with an inherited lipoprotein deficiency and in people with hyperthyroidism, infection, inflammation, or cirrhosis.

Uric Acid (Serum)

Uric Acid *Method - Uricase*	5.9	mg/dl	3.5 - 7.2

References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular DiagnosticsEdited by: Carl A.burtis,Edward R. Ashwood,David e. Bruns

Interpretation:-
Uric acid is produced by the breakdown of purines. Purines are nitrogen-containing compounds found in the cells of the body, including our DNA. Increased concentrations of uric acid can cause crystals to form in the joints, which can lead to the joint inflammation and pain characteristic of gout. Low values can be associated with some kinds of liver or kidney diseases, Fanconi syndrome, exposure to toxic compounds, and rarely as the result of an inherited metabolic defect (Wilson disease).

Liver Function Test (LFT)

SGOT (Aspartate Transaminase) - SERUM *Method - IFCC*	23.1	U/L	0 - 35
SGPT (Alanine Transaminase) - SERUM *Method - IFCC*	34.1	U/L	0 - 45
Total Bilirubin - SERUM *Method - Diazo*	0.57	mg/dl	0 - 2
Direct Bilirubin - - SERUM *Method - Diazotization*	0.2	mg/dl	0 - 0.4
Indirect Bilirubin - Calculated *Method - Calculated*	0.37	mg/dl	0.1 - 0.8

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Alkaline Phosphatase - SERUM *Method - IFCC AMP Buffer*	104	U/L	0 - 115
Total Protein - SERUM *Method - Biuret*	7.33	gm/dl	6 - 7.8
Albumin - SERUM *Method - Bromo Cresol Green(BCG)*	4.48	gm/dl	3.5 - 5.2
Globulin - Calculated *Method - Calculated*	2.85	gm/dl	2 - 4
A:G Ratio *Method - Calculated*	1.57	:1	1 - 3
Gamma Glutamyl Transferase (GGT) - Gglutamyl carboxy nitroa *Method - G glutamyl carboxy nitroanilide*	**68 ▲**	U/L	0 - 55

References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular DiagnosticsEdited by: Carl A.burtis,Edward R. Ashwood,David e. Bruns

Interperatation :-
Bilirubin is a yellowish pigment found in bile and is a breakdown product of normal heme catabolism. Elevated levels results from increased bilirubin production (eg hemolysis and ineffective erythropoiesis); decreased bilirubin excretion (eg; obstruction and hepatitis); and abnormal bilirubin metabolism (eg; hereditary and neonatal jaundice).conjugated (direct) bilirubin is also elevated more than unconjugated (indirect) bilirubin when there is some kind of blockage of the bile ducts like in Gallstonesgetting into the bile ducts tumors & Scarring of the bile ducts. Increased unconjugated (indirect) bilirubin may be a result of hemolytic or pernicious anemia, transfusion reaction & a common metabolic condition termed Gilbert syndrome.
AST levels increase in viral hepatitis, blockage of the bile duct ,cirrhosis of the liver, liver cancer, kidney failure, hemolytic anemia, pancreatitis, hemochromatosis.Ast levels may also increase after a heart attck or strenuous activity. ALT is commonly measured as a part of a diagnostic evaluation of hepatocellular injury, to determine liver health. Elevated ALP levels are seen in Biliary Obstruction, Osteoblastic Bone Tumors, Osteomalacia, Hepatitis, Hyperparathyriodism, Leukemia,Lymphoma, paget`s disease, Rickets, Sarcoidosis etc.
Elevated serum GGT activity can be found in diseases of the liver, Biliary system and pancreas. Conditions that increase serum GGT are obstructive liver disease,high alcohol consumption and use of enzyme-including drugs etc.
Serum total protein, also known as total protein, is a biochemical test for measuring the total amount of protein in serum..Protein in the plasma is made up of albumin and globulin. Higher-than-normal levels may be due to: Chronic inflammation or infection, including HIV and hepatitis B or C, Multiple myeloma,Waldenstrom's disease. Lower-than-normal levels may be due to: Agammaglobulinemia, Bleeding (hemorrhage), Burns, Glomerulonephritis, Liver disease, Malabsorption, Malnutrition, Nephrotic - Human serum albumin is the most abundant protein in human blood plasma. It is produced in the liver.Albumin constitutes about half of the blood serum protein. Low blood albumin levels (hypoalbuminemia) can be caused by: Liver disease like cirrhosis of the liver, nephrotic syndrome, protein-losing enteropathy, Burns, hemodilution, increased vascular permeability or decreased lymphatic clearance, malnutrition and wasting etc.

Renal Function Test (RFT)

Urea - SERUM *Method - Urease*	19.8	mg/dl	15 - 39
BUN - SERUM *Method - Urease-GLDH*	9.2	mg/dl	4 - 18
Creatinine - SERUM *Method - Jaffes Kinetic*	1.0	mg/dl	0.5 - 1.3

LABORATORY INVESTIGATION REPORT

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		DOB	: 14/10/1970
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References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular DiagnosticsEdited by: Carl A.burtis, Edward R. Ashwood, David e. Bruns

Interpretation:-
The blood urea nitrogen or BUN test is primarily used, along with the creatinine test, to evaluate kidney function in a wide range of circumstances, to help diagnose kidney disease, and to monitor people with acute or chronic kidney dysfunction or failure. It also may be used to evaluate a person's general health status when ordered as part of a renal panel, basic metabolic panel (BMP) or comprehensive metabolic panel (CMP).

Sample No : O0250437B Collection Date : 26/11/22 12:00 Ack Date : 26/11/2022 12:51 Report Date : 26/11/22 13:15

GLUCOSE-PLASMA POST PRANDIAL

Glucose,Post Prandial	136.3	mg/dl	70 - 140

American Diabetes Association Reference Range :

Post-Prandial Blood Glucose:
Non- Diabetic: Up to 140mg/dL
Pre-Diabetic: 140-199 mg/dL
Diabetic :>200 mg/dL

References:
1)Pack Insert of Bio system
2) TIETZ Textbook of Clinical chemistry and Molecular Diagnostics Edited by: Carl A.burtis, Edward R. Ashwood,David e. Bruns

Interpretation :-
Conditions that can result in an elevated blood glucose level include: Acromegaly, Acute stress (response to trauma, heart attack,and stroke for instance), Chronic kidney disease, Cushing syndrome, Excessive consumption of food, Hyperthyroidism,Pancreatitis.
A low level of glucose may indicate hypoglycemia, a condition characterized by a drop in blood glucose to a level where first it causes nervous system symptoms (sweating, palpitations, hunger, trembling, and anxiety), then begins to affect the brain (causing confusion, hallucinations, blurred vision, and sometimes even coma and death). A low blood glucose level (hypoglycemia) may be seen with:Adrenal insufficiency, Drinking excessive alcohol, Severe liver disease, Hypopituitarism, Hypothyroidism, Severe infections, Severe heart failure, Chronic kidney (renal) failure, Insulin overdose, Tumors that produce insulin (insulinomas),Starvation.

End of Report

Dr.Ritesh Kharche
MD, PGD
HOD, Laboratory Medicine Dept.

RegNo: 2006/03/1680

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LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
Episode	: OP		
Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

IMMUNOLOGY

Test Name	Result	Unit	Ref. Range

Sample No : O0250405C Collection Date : 26/11/22 09:33 Ack Date : 26/11/2022 10:09 Report Date : 26/11/22 10:56

PSA -TOTAL-SERUM

PSA- Prostate Specific Antigen - SERUM	1.98	ng/ml	0.00 - 4.00

Biological Reference Interval :-
Conventional for all ages: <=4
60 - 69 yrs: 0 - 4.5
Note : Change in method and Reference range

INTERPRETATION :
Prostate-specific antigen (PSA) is a glycoprotein that is produced by the prostate gland, the lining of the urethra, and the bulbourethral gland. PSA exists in serum mainly in two forms, complexed to alpha-1-anti-chymotrypsin (PSA-ACT complex) and unbound (free PSA). Increases in prostatic glandular size and tissue damage caused by benign prostatic hypertrophy, prostatitis, or prostate cancer may increase circulating PSA levels. Transient increase in PSA can also be seen following per rectal digital or sonological examinations.

NOTE:
Patients on Biotin supplement may have interference in some immunoassays. With individuals taking high dose Biotin (more than 5 mg per day) supplements, at least 8-hour wait time before blood draw is recommended.
Ref: Arch Pathol Lab Med—Vol 141, November 2017

T3 - SERUM *Method - CLIA*	87.36	ng/dl	47.00 - 200.00
T4 - SERUM *Method - CLIA*	5.3	ug/dL	4.60 - 10.50
TSH - SERUM *Method - CLIA*	0.75	uIU/ml	0.40 - 4.50

LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
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Reference Ranges (T3) Pregnancy:
First Trimester 81 - 190
Second Trimester & Third Trimester 100 - 260

Reference Ranges (TSH) Pregnancy:
1st Trimester : 0.1 – 2.5
2nd Trimester : 0.2 – 3.0
3rd Trimester : 0.3 – 3.0

Reference:
1.Clinical Chemistry and Molecular Diagnostics, Tietz Fundamentals, 7th Edition & Endocronology Guideliens

Interpretation :-
It is recommended that the following potential sources of variation should be considered while interpreting thyroid hormone results:
1. Thyroid hormones undergo rhythmic variation within the body this is called circadian variation in TSH secretion: Peak levels are seen between 2-4 am. Minimum levels seen between 6-10 am. This variation may be as much as 50% thus, influence of sampling time needs to be considered for clinical interpretation.
2. Circulating forms of T3 and T4 are mostly reversibly bound with Thyroxine binding globulins (TBG), and to a lesser extent with albumin and Thyroid binding PreAlbumin. Thus the conditions in which TBG and protein levels alter such as chronic liver disorders, pregnancy, excess of estrogens, androgens, anabolic steroids and glucocorticoids may cause misleading total T3, total T4 and TSH interpretations.
3. Total T3 and T4 levels are seen to have physiological rise during pregnancy and in patients on steroid treatment.
4. T4 may be normal the presence of hyperthyroidism under the following conditions : T3 thyrotoxicosis, Hypoproteinemia related reduced binding, during intake of certain drugs (eg Phenytoin, Salicylates etc)
5. Neonates and infants have higher levels of T4 due to increased concentration of TBG
6. TSH levels may be normal in central hypothyroidism, recent rapid correction of hypothyroidism or hyperthyroidism, pregnancy, phenytoin therapy etc.
7. TSH values of <0.03 uIU/mL must be clinically correlated to evaluate the presence of a rare TSH variant in certain individuals which is undetectable by conventional methods.
8. Presence of Autoimmune disorders may lead to spurious results of thyroid hormones
9. Various drugs can lead to interference in test results.
10. It is recommended that evaluation of unbound fractions, that is free T3 (fT3) and free T4 (fT4) for clinic-pathologic correlation, as these are the metabolically active forms.

End of Report

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LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
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Urinalysis

Test Name	Result	Unit	Ref. Range

Sample No : O0250405E Collection Date : 26/11/22 09:33 Ack Date : 26/11/2022 09:58 Report Date : 26/11/22 15:21

Physical Examination

QUANTITY	30	ml	
Colour	Pale Yellow		
Appearance	Clear		
DEPOSIT	Absent		Absent
pH	Acidic		
Specific Gravity	1.015		

Chemical Examination

Protein	Absent		Absent
Sugar	Absent		Absent
ketones	Absent		Absent
Occult Blood	NEGATIVE		Absent
Bile Salt	Absent		Absent
Bile Pigments	Absent		Absent
Urobilinogen	Normal		Absent
NITRATE	Absent		
LEUKOCYTES	Absent		

LABORATORY INVESTIGATION REPORT

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Microscopic Examination

Puscells	OCCASIONAL	/HPF	
Epithelial Cells	OCCASIONAL	/HPF	
RBC	Absent	/HPF	Absent
Cast	Absent	/LPF	Absent
Crystal	Absent	/HPF	Absent
Amorphous Materials	Absent		Absent
Yeast	Absent		Absent
Bacteria	Absent		Absent

URINE SUGAR AND KETONE (FASTING)

Sugar	Absent
ketones	Absent

Sample No : O0250442E Collection Date : 26/11/22 12:10 Ack Date : 26/11/2022 12:28 Report Date : 26/11/22 15:21

URINE SUGAR AND KETONE (PP)

Sugar	Absent
ketones	Absent

End of Report

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LABORATORY INVESTIGATION REPORT

Patient Name	: Mr. MUTHURAMAN MV	**Age/Sex**	: 52 Year(s) / Male
UHID	: SHHM.53365	**Order Date**	: 26/11/2022 09:24
Episode	: OP		
Ref. Doctor	:	**Mobile No**	: 8095083559
		DOB	: 14/10/1970
		Facility	: SEVENHILLS HOSPITAL, MUMBAI

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DIAGNOSTICS REPORT

Patient Name	: Mr. MUTHURAMAN MV	Order Date	: 26/11/2022 09:24
Age/Sex	: 52 Year(s)/Male	Report Date	: 26/11/2022 12:08
UHID	: SHHM.53365	IP No	:
Ref. Doctor	: Self	Facility	: SEVENHILLS HOSPITAL, MUMBAI

USG ABDOMEN

Liver is normal in size (14.4 cm) and shows bright echotexture. No focal liver parenchymal lesion is seen. Intrahepatic portal and biliary radicles are normal.

Gall-bladder is physiologically distended. No evidence of intraluminal calculus is seen. Wall thickness appears normal. No evidence of peri-cholecystic fluid is seen.

Portal vein and CBD are normal in course and calibre.

Visualised part of pancreas appears normal in size and echotexture. No evidence of duct dilatation or parenchymal calcification seen.

Spleen is normal in size (11.3 cm) and echotexture. No focal lesion is seen in the spleen.

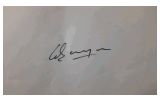
Right kidney measures 9.1 x 4.2 cm.
Left kidney measures 9.5 x 4.7 cm.

Both the kidneys are normal in size, shape and echotexture. Cortico-medullary differentiation is maintained. No evidence of calculus or hydronephrosis on either side.

There is no free fluid in abdomen and pelvis.

IMPRESSION:

- **Grade I fatty liver.**



Dr.Sagar Shriramlingam Garge ,
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RegNo: 2015/04/1936

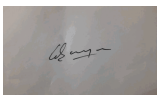
DIAGNOSTICS REPORT

Patient Name	: Mr. MUTHURAMAN MV	Order Date	: 26/11/2022 09:24
Age/Sex	: 52 Year(s)/Male	Report Date	: 26/11/2022 13:47
UHID	: SHHM.53365	IP No	:
Ref. Doctor	: Self	Facility	: SEVENHILLS HOSPITAL, MUMBAI

X-RAY CHEST PA VIEW

Both lungs are clear.
The frontal cardiac dimensions are normal.
The pleural spaces are clear.
Both hilar shadows are normal in position and density.
No diaphragmatic abnormality is seen.
The soft tissues and bony thorax are normal.

IMPRESSION: No pleuroparenchymal lesion is seen.



Dr.Sagar Shriramlingam Garge ,
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RegNo: 2015/04/1936