MUMBAI

 Patient Name
 : Mr. RAJ BEER SINGH
 Order Date
 : 13/04/2024 09:01

 Age/Sex
 : 51 Year(s)/Male
 Report Date
 : 13/04/2024 13:06

UHID : SHHM.57122

Ref. Doctor : Self Facility : SEVENHILLS HOSPITAL,

Address : FLAT NO 702 A BARODA ADITY,

mumbai, Mumbai, Maharastra, Mobile : 9991905005

400101

2D ECHOCARDIOGRAPHY WITH COLOUR DOPPLER STUDY

Normal LV and RV systolic function.

Estimated LVEF = 60%

No LV regional wall motion abnormality at rest .

All 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.Ganesh Vilas Manudhane M.ch,MCH/DM

RegNo: 2011/06/1763

Patient Name : Mr. RAJ BEER SINGH Age/Sex : 51 Year(s) / Male

Episode : OP

Ref. Doctor: SelfMobile No: 9991905005

DOB : 01/01/1973

Facility: SEVENHILLS HOSPITAL, MUMBAI

Blood Bank

Test Name Result

Sample No: 00325783A Collection Date: 13/04/24 09:11 Ack Date: 13/04/2024 10:51 Report Date: 13/04/24 11:39

BLOOD GROUPING/ CROSS-MATCHING BY SEMI AUTOMATION				
BLOOD GROUP (ABO)	'В'			
Rh Type Method - Column Agglutination	POSITIVE			

REMARK: THE REPORTED RESULTS PERTAIN TO THE SAMPLE RECEIVED AT THE BLOOD CENTRE.

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.Pooja Vinod Mishra MD Pathology

Jr Consultant Pathologist, MMC Reg No. 2017052191

RegNo: 2017/05/2191

Patient Name : Mr. RAJ BEER SINGH Age/Sex : 51 Year(s) / Male

Episode : OP

 Ref. Doctor
 : Self
 Mobile No
 : 9991905005

 DOB
 : 01/01/1973

Facility: SEVENHILLS HOSPITAL, MUMBAI

HAEMATOLOGY

est Name			Result		Unit	Bio	logical Reference Interva
Sample No :	O0325783A	Collection Date :	13/04/24 09:11	Ack Date :	13/04/2024 11:05	Report Date :	13/04/24 11:07
COMPLETE	E BLOOD COUN	IT (CBC) - EDTA	WHOLE BLOOD				
Total WBC (Count		5.7	8		x10^3/ul	4.00 - 10.00
Neutrophils			58			%	40.00 - 80.00
Lymphocyte	es		33.	0		%	20.00 - 40.00
Eosinophils			2.5			%	1.00 - 6.00
Monocytes			6.5			%	2.00 - 10.00
Basophils			0.0	▼ (L)		%	1.00 - 2.00
Absolute Ne	eutrophil Count		3.3	5		x10^3/ul	2.00 - 7.00
Absolute Ly	mphocyte Count		1.9	1		x10^3/ul	0.80 - 4.00
Absolute Eo	sinophil Count		0.1	4		x10^3/ul	0.02 - 0.50
Absolute Mo	onocyte Count		0.3	8		x10^3/ul	0.12 - 1.20
Absolute Ba	sophil Count		0.0	0		x10^3/ul	0.00 - 0.10
RBCs			5.1	4		x10^6/ul	4.50 - 5.50
Hemoglobin	1		15.	3		gm/dl	13.00 - 17.00
Hematocrit			46.	7		%	40.00 - 50.00
MCV			90.	9		fl	83.00 - 101.00
MCH			29.	9		pg	27.00 - 32.00



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Facility: SEVENHILLS HOSPITAL, MUMBAI

MCHC	32.9	gm/dl	31.50 - 34.50
RED CELL DISTRIBUTION WIDTH-CV (RDW-CV)	11.7	%	11.00 - 16.00
RED CELL DISTRIBUTION WIDTH-SD (RDW-SD)	39.5	fl	35.00 - 56.00
Platelet	208	x10^3/ul	150.00 - 410.00
Mean Platelet Volume (MPV)	13.9 ▲ (H)	fl	6.78 - 13.46
PLATELET DISTRIBUTION WIDTH (PDW)	16.3	%	9.00 - 17.00
PLATELETCRIT (PCT)	0.289 ▲ (H)	%	0.11 - 0.28

Method:-

HB Colorimetric Method.

RBC/PLT Electrical Impedance Method.

WBC data Flow Cytometry by Laser Method.

MCV,MCH,MCHC,RDW and rest parameters - Calculated.

All Abnormal Haemograms are reviewed confirmed microscopically.

NOTE: Wallach's Interpretation of Diagnostic Tests. 11th Ed, Editors: Rao LV. 2021

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.

End of Report

Dr.Ritesh Kharche MD, PGD



Patient Name : Mr. RAJ BEER SINGH Age/Sex : 51 Year(s) / Male

 UHID
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 : OP

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 : Self
 Mobile No : 9991905005

DOB : 01/01/1973

Facility: SEVENHILLS HOSPITAL, MUMBAI

Consultant Pathologist and Director of

Laboratory Services RegNo: 2006/03/1680

MC-5288

Patient Name : Mr. RAJ BEER SINGH Age/Sex : 51 Year(s) / Male

Episode : OP

Ref. Doctor: SelfMobile No: 9991905005

DOB : 01/01/1973

Facility: SEVENHILLS HOSPITAL, MUMBAI

HAEMATOLOGY

Test Name		Result		Unit	Biol	ogical Reference Interval
Sample No: 00325783A	Collection Date :	13/04/24 09:11	Ack Date :	13/04/2024 11:05	Report Date :	13/04/24 15:36

ERYTHROCYTE SEDIMENTATION RATE (ESR)			
ESR	30 ▲ (H)	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 may occur 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 ESR values.

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).

- End of Report -

Dr.Ritesh Kharche MD, PGD

Consultant Pathologist and Director of Laboratory Services

RegNo: 2006/03/1680

Patient Name : Mr. RAJ BEER SINGH Age/Sex : 51 Year(s) / Male

Episode : OP

Ref. Doctor: SelfMobile No: 9991905005

DOB : 01/01/1973

Facility: SEVENHILLS HOSPITAL, MUMBAI

Biochemistry

Test Name			Result		Offic	יוטום	ogical Reference Titler	vai
Sample No :	O0325783A	Collection Date :	13/04/24 09:11	Ack Date :	13/04/2024 11:05	Report Date :	13/04/24 15:59	

GLYCOSLYATED HAEMOGLOBIN (HBA1C)			
HbA1c Method - Immunoturbidimetry	7.27 ▲ (H)	%	4 to 6% Non-diabetic 6.07.0% Excellent control 7.08.0% Fair to good control 8.010% Unsatisfactory control ABOVE 10% Poor control
Estimated Average Glucose (eAG) Method - Calculated	161.95 ▲ (H)	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 %.



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Episode : OP

Ref. Doctor: SelfMobile No: 9991905005

DOB : 01/01/1973

Facility: SEVENHILLS HOSPITAL, MUMBAI

Method: turbidimetric inhibition immunoassay (TINIA) for hemolyzed whole blood

Reference: American Diabetes Associations, Standards of Medical Care in Diabetes 2015

GLUCOSE-PLASMA-FASTING			
Glucose,Fasting	122.97 ▲ (H)	mg/dl	70 - 110

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, 6th Ed. Editors: Rifai et al. 2018

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.

<u>Lipid Profile</u>		



Patient Name : Mr. RAJ BEER SINGH Age/Sex : 51 Year(s) / Male

DOB : 01/01/1973

Facility: SEVENHILLS HOSPITAL, MUMBAI

Total Cholesterol	193.81	mg/dl	CHILD Desirable - Less than: 170 CHILD Borderline High: 170-199 CHILD High - More than: 200 ADULT Desirable - Less than: 200 ADULT Borderline High: 200-239 ADULT High - More than: 240
Triglycerides Method - glycerol Phosphate Oxidase/Peroxide	187.02	mg/dl	NORMAL: <150 Borderline High: 150-199 High: 200-499 Very High: > 500
HDL Cholesterol Method - Enzymatic immuno inhibition	32.8	mg/dl	Desirable - Above 60 Borderline Risk : 40-59 Undesirable - Below :40
LDL Cholesterol Method - Calculated	123.61	mg/dl	Desirable - Below : 130 Borderline Risk : 130-159 Undesirable - Above : 160
VLDL Cholesterol Method - Calculated	37.40	mg/dl	5 - 51
Total Cholesterol / HDL Cholesterol Ratio - Calculated Method - Calculated	5.91 ▲ (H)	RATIO	0 - 5



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LDL / HDL Cholesterol Ratio - Calculated

Method - Calculated

3.77 ▲ (H)

RATIO

0 - 3.6

Note:

- 1) Biological Reference Interval is as per National Cholestrol Education Program (NCEP) Guidlines.
- 2) tests done on Fully Automated Biosystem BA-400 Biochemistry Analyser.

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) Method - Uricase			
Uric Acid Method - Uricase	7.32 ▲ (H)	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



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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).

<u>Liver Function Test (LFT)</u>			
SGOT (Aspartate Transaminase) - SERUM Method - IFCC	28.37	IU/L	0 - 35
SGPT (Alanine Transaminase) - SERUM Method - IFCC	38.72	IU/L	0 - 45
Total Bilirubin - SERUM <i>Method - Diazo</i>	0.28	mg/dl	0 - 2
Direct Bilirubin SERUM Method - Diazotization	0.17	mg/dl	0 - 0.4
Indirect Bilirubin - Calculated Method - Calculated	0.11	mg/dl	0.1 - 0.8
Alkaline Phosphatase - SERUM Method - IFCC AMP Buffer	105.15	IU/L	43 - 115
Total Protein - SERUM Method - Biuret	7.29	gm/dl	6 - 7.8
Albumin - SERUM Method - Bromo Cresol Green(BCG)	4.83	gm/dl	3.5 - 5.2
Globulin - Calculated Method - Calculated	2.46	gm/dl	2 - 4
A:G Ratio Method - Calculated	1.96	:1	1 - 3

References:

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



¹⁾Pack Insert of Bio system

²⁾ Tietz Textbook Of Clinical Chemistry And Molecular Diagnostics, 6th Ed, Editors: Rifai et al. 2018

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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,

U U			
Renal Function Test (RFT)			
Urea - SERUM Method - Urease	28.37	mg/dl	15 - 39
BUN - SERUM Method - Urease-GLDH	13.26	mg/dl	4 - 18
Creatinine - SERUM Method - Jaffes Kinetic	0.98	mg/dl	0.5 - 1.3

References:

1)Pack Insert of Bio system

malnutrition and wasting etc.

2) Tietz Textbook Of Clinical Chemistry And Molecular Diagnostics, 6th Ed, Editors: Rifai et al. 2018

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.

GLUCOSE-PLASMA POST PRANDIAL			
Glucose,Post Prandial	198.15 ▲ (H)	mg/dl	70 - 140



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American Diabetes Association Reference Range:

:>200 mg/dL

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

References:

Diabetic

1)Pack Insert of Bio system

2) Tietz Textbook Of Clinical Chemistry And Molecular Diagnostics, 6th Ed, Editors: Rifai et al. 2018

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

Consultant Pathologist and Director of Laboratory Services

RegNo: 2006/03/1680



Patient Name : Mr. RAJ BEER SINGH Age/Sex : 51 Year(s) / Male

UHID : SHHM.57122

: Self

Order Date : 13/04/2024 09:01

Episode : OP

Ref. Doctor

Mobile No : 9991905005

DOB : 01/01/1973

Facility: SEVENHILLS HOSPITAL, MUMBAI

IMMUNOLOGY

Test Name	Result	Unit	Biol	ogical Reference Interval
Sample No: 00325783C Collection Date :	13/04/24 09:11 Ack Date	2: 13/04/2024 09:27	Report Date :	13/04/24 11:51
PSA -TOTAL-SERUM Method - (Serum, ECLIA)				
PSA- Prostate Specific Antigen - SERUM	2.76		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

End of Report

Dr.Ritesh Kharche MD, PGD

Consultant Pathologist and Director of Laboratory Services

RegNo: 2006/03/1680

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Facility: SEVENHILLS HOSPITAL, MUMBAI

Biochemistry

Test Name			Result		Offic	יוטום	ogical Reference Titler	vai
Sample No :	O0325783A	Collection Date :	13/04/24 09:11	Ack Date :	13/04/2024 11:05	Report Date :	13/04/24 15:59	

GLYCOSLYATED HAEMOGLOBIN (HBA1C)			
HbA1c Method - Immunoturbidimetry	7.27 ▲ (H)	%	4 to 6% Non-diabetic 6.07.0% Excellent control 7.08.0% Fair to good control 8.010% Unsatisfactory control ABOVE 10% Poor control
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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.
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- 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 %.



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Facility: SEVENHILLS HOSPITAL, MUMBAI

Method: turbidimetric inhibition immunoassay (TINIA) for hemolyzed whole blood

Reference: American Diabetes Associations, Standards of Medical Care in Diabetes 2015

GLUCOSE-PLASMA-FASTING			
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American Diabetes Association Reference Range:

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<u>Lipid Profile</u>		



Patient Name : Mr. RAJ BEER SINGH Age/Sex : 51 Year(s) / Male

DOB : 01/01/1973

Facility: SEVENHILLS HOSPITAL, MUMBAI

Total Cholesterol	193.81	mg/dl	CHILD Desirable - Less than: 170 CHILD Borderline High: 170-199 CHILD High - More than: 200 ADULT Desirable - Less than: 200 ADULT Borderline High: 200-239 ADULT High - More than: 240
Triglycerides Method - glycerol Phosphate Oxidase/Peroxide	187.02	mg/dl	NORMAL: <150 Borderline High: 150-199 High: 200-499 Very High: > 500
HDL Cholesterol Method - Enzymatic immuno inhibition	32.8	mg/dl	Desirable - Above 60 Borderline Risk : 40-59 Undesirable - Below :40
LDL Cholesterol Method - Calculated	123.61	mg/dl	Desirable - Below : 130 Borderline Risk : 130-159 Undesirable - Above : 160
VLDL Cholesterol Method - Calculated	37.40	mg/dl	5 - 51
Total Cholesterol / HDL Cholesterol Ratio - Calculated Method - Calculated	5.91 ▲ (H)	RATIO	0 - 5



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LDL / HDL Cholesterol Ratio - Calculated

Method - Calculated

3.77 ▲ (H)

RATIO

0 - 3.6

Note:

- 1) Biological Reference Interval is as per National Cholestrol Education Program (NCEP) Guidlines.
- 2) tests done on Fully Automated Biosystem BA-400 Biochemistry Analyser.

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) Method - Uricase			
Uric Acid Method - Uricase	7.32 ▲ (H)	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



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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).

<u>Liver Function Test (LFT)</u>			
SGOT (Aspartate Transaminase) - SERUM Method - IFCC	28.37	IU/L	0 - 35
SGPT (Alanine Transaminase) - SERUM Method - IFCC	38.72	IU/L	0 - 45
Total Bilirubin - SERUM <i>Method - Diazo</i>	0.28	mg/dl	0 - 2
Direct Bilirubin SERUM Method - Diazotization	0.17	mg/dl	0 - 0.4
Indirect Bilirubin - Calculated Method - Calculated	0.11	mg/dl	0.1 - 0.8
Alkaline Phosphatase - SERUM Method - IFCC AMP Buffer	105.15	IU/L	43 - 115
Total Protein - SERUM Method - Biuret	7.29	gm/dl	6 - 7.8
Albumin - SERUM Method - Bromo Cresol Green(BCG)	4.83	gm/dl	3.5 - 5.2
Globulin - Calculated Method - Calculated	2.46	gm/dl	2 - 4
A:G Ratio Method - Calculated	1.96	:1	1 - 3

References:

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



¹⁾Pack Insert of Bio system

²⁾ Tietz Textbook Of Clinical Chemistry And Molecular Diagnostics, 6th Ed, Editors: Rifai et al. 2018

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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,

U U			
Renal Function Test (RFT)			
Urea - SERUM Method - Urease	28.37	mg/dl	15 - 39
BUN - SERUM Method - Urease-GLDH	13.26	mg/dl	4 - 18
Creatinine - SERUM Method - Jaffes Kinetic	0.98	mg/dl	0.5 - 1.3

References:

1)Pack Insert of Bio system

malnutrition and wasting etc.

2) Tietz Textbook Of Clinical Chemistry And Molecular Diagnostics, 6th Ed, Editors: Rifai et al. 2018

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.

GLUCOSE-PLASMA POST PRANDIAL			
Glucose,Post Prandial	198.15 ▲ (H)	mg/dl	70 - 140



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American Diabetes Association Reference Range:

:>200 mg/dL

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

References:

Diabetic

1)Pack Insert of Bio system

2) Tietz Textbook Of Clinical Chemistry And Molecular Diagnostics, 6th Ed, Editors: Rifai et al. 2018

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

Consultant Pathologist and Director of Laboratory Services

RegNo: 2006/03/1680



Patient Name : Mr. RAJ BEER SINGH Age/Sex : 51 Year(s) / Male

Episode : OP

Ref. Doctor: SelfMobile No: 9991905005

DOB : 01/01/1973

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IMMUNOLOGY

Test Name	Result	Unit E	Biological Reference Interval
Sample No: 00325783C Collection Date: 13	/04/24 09:11 Ack Date : 3	13/04/2024 09:27 Report Date	2: 13/04/24 11:51
T3 - SERUM Method - CLIA	114	ng/dl	47.00 - 200.00
TFT- Thyroid Function Tests			
T4 - SERUM Method - CLIA	7.08	ug/dL	4.60 - 10.50
TSH - SERUM Method - CLIA	3.6	uIU/ml	0.40 - 4.50

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,



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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 -

Dr.Ritesh Kharche MD, PGD

Consultant Pathologist and Director of Laboratory Services

RegNo: 2006/03/1680



 Patient Name
 : Mr. RAJ BEER SINGH
 Age/Sex
 : 51 Year(s) / Male

 UHID
 : SHHM.57122
 Order Date
 : 13/04/2024 09:01

Episode : OP

Ref. Doctor : Self **Mobile No** : 9991905005

DOB : 01/01/1973

Facility: SEVENHILLS HOSPITAL, MUMBAI

Urinalysis

Test Name Result Unit Biological Reference Interval						
Sample No : 00325783D	Collection Date : 1	3/04/24 09:11	Ack Date :	13/04/2024 09:28	Report Date :	13/04/24 16:09
Physical Examination						
QUANTITY		50			ml	
Colour		Pal	e Yellow			
Appearance		Cle	ar			
DEPOSIT		Ab	sent			Absent
pH			dic			
Specific Gravity		1.0				
Chemical Examination						
Protein		Ab	sent			Absent
Sugar		Ab	sent			Absent
ketones		Ab	sent			Absent
Occult Blood		NE	GATIVE			Negative
Bile Salt		Ab	sent			Absent
Bile Pigments		Ab	sent			Absent
Urobilinogen		NO	RMAL			Normal
NITRATE		Ab	sent			Absent
LEUKOCYTES			sent			Absent

Patient Name : Mr. RAJ BEER SINGH Age/Sex : 51 Year(s) / Male

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Microscopic Examination			
Pus cells	1-2	/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		

URINE SUGAR AND KETONE (PP)		
Sugar	POSITIVE (++)	
ketones	Absent	

End of Report

Dr.Ritesh Kharche MD, PGD

MD, PGDConsultant Pathologist and Director of

Laboratory Services RegNo: 2006/03/1680

Patient Name : Mr. RAJ BEER SINGH Age/Sex :51 Year(s) / Male

UHID : SHHM.57122 : 13/04/2024 09:01 **Order Date** : OP

Mobile No Ref. Doctor : 9991905005 : Self

Episode

DOB : 01/01/1973

: SEVENHILLS HOSPITAL, MUMBAI **Facility**

: Mr. RAJ BEER SINGH Order Date : 13/04/2024 09:01 Patient Name : 51 Year(s)/Male Report Date : 13/04/2024 15:13 Age/Sex

: SHHM.57122 UHID

: Self Facility : SEVENHILLS HOSPITAL, Ref. Doctor

Address : FLAT NO 702 A BARODA ADITY,

MUMBAI : 9991905005 Mobile mumbai, Mumbai, Maharastra,

400101

USG ABDOMEN AND PELVIS

Liver is normal in size (14.6 cm) and shows bright echotexture. No focal liver parenchymal lesion is seen.

Intrahepatic portal and biliary radicles are normal.

Gall-bladder is physiologically distended. There is evidence of 5.1 mm size polyp noted attached to the gall bladder wall. 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 (10.4 cm) and echotexture. No focal lesion is seen in the spleen.

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

Right kidney measures 10.7 x 3.6cm.

Left kidney measures 10.8 x 5.6 cm.

Urinary bladder is well distended and appears normal. No evidence of intra-luminal calculus or mass lesion.

Prostate appears normal in size and echotexture. It measures 2.5 x 3.4x 2.9 cm corresponding to 13.5 cc.

There is no free fluid in abdomen and pelvis.

Patient Name : Mr. RAJ BEER SINGH Order Date : 13/04/2024 09:01
Age/Sex : 51 Year(s)/Male Report Date : 13/04/2024 15:13

UHID : SHHM.57122

Ref. Doctor : Self Facility : SEVENHILLS HOSPITAL,

Address : FLAT NO 702 A BARODA ADITY,

mumbai, Mumbai, Maharastra, Mobile : 9991905005

MUMBAI

400101

IMPRESSION

·Grade I fatty liver.

·Gall bladder polyp

P.

Dr.Priya Vinod Phayde MBBS,DMRE

RegNo: 2020/11/6493

Order Date : Mr. RAJ BEER SINGH : 13/04/2024 09:01 Patient Name Age/Sex : 51 Year(s)/Male Report Date : 13/04/2024 11:16

UHID : SHHM.57122

Ref. Doctor : Self Facility : SEVENHILLS HOSPITAL,

Address : FLAT NO 702 A BARODA ADITY,

MUMBAI : 9991905005 Mobile mumbai, Mumbai, Maharastra,

400101

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.Priya Vinod Phayde MBBS, DMRE

RegNo: 2020/11/6493