

Name Mr. SUDHIR JAIN

300837902 Age: 60 Years

Ref By : SELF

Collected

: 6/4/2021 10:16:00AM

Received Reported : 6/4/2021 3:35:52PM : 7/4/2021 2:10:29PM

Report Status : Final

Test Name Results Units Bio. Ref. Interval

Gender:

Male

### SwasthFit Super 4

Lab No.

A/c Status

COMPLETE BLOOD COUNT; CBC			
(Electrical Impedence & Flow)			
Hemoglobin	13.80	g/dL	13.00 - 17.00
Packed Cell Volume (PCV)	43.30	%	40.00 - 50.00
RBC Count	4.95	mill/mm3	4.50 - 5.50
MCV	87.50	fL	83.00 - 101.00
мсн	27.90	pg	27.00 - 32.00
MCHC	31.90	g/dL	31.50 - 34.50
Red Cell Distribution Width (RDW)	14.90	%	11.60 - 14.00
Total Leukocyte Count (TLC)	7.03	thou/mm3	4.00 - 10.00
Differential Leucocyte Count (DLC)			
Segmented Neutrophils	56.70	%	40.00 - 80.00
Lymphocytes	35.00	%	20.00 - 40.00
Monocytes	4.60	%	2.00 - 10.00
Eosinophils	3.10	%	1.00 - 6.00
Basophils	0.60	%	<2.00
Absolute Leucocyte Count			
Neutrophils	3.99	thou/mm3	2.00 - 7.00
Lymphocytes	2.46	thou/mm3	1.00 - 3.00
Monocytes	0.32	thou/mm3	0.20 - 1.00
Eosinophils	0.22	thou/mm3	0.02 - 0.50
Basophils	0.04	thou/mm3	0.02 - 0.10



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Test Name	Results	Units	Bio. Ref. Interval
Platelet Count	269.0	thou/mm3	150.00 - 410.00
Mean Platelet Volume	9.0	fL	6.5 - 12.0

#### Note

- As per the recommendation of International council for Standardization in Hematology, the differential leucocyte counts are additionally being reported as absolute numbers of each cell in per unit volume of blood
- 2. Test conducted on EDTA whole blood





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Test Name	Results	Units	Bio. Ref. Interval
LIVER & KIDNEY PANEL, SERUM (Spectrophotometry, Indirect ISE)			
Bilirubin Total	0.65	mg/dL	0.30 - 1.20
Bilirubin Direct	0.20	mg/dL	<0.30
Bilirubin Indirect	0.45	mg/dL	<1.10
AST (SGOT)	26	U/L	<50
ALT (SGPT)	36	U/L	<50
GGTP	42	U/L	<55
Alkaline Phosphatase (ALP)	75	U/L	30 - 120
Total Protein	6.60	g/dL	6.40 - 8.30
Albumin	4.60	g/dL	3.50 - 5.20
A : G Ratio	2.30		0.90 - 2.00
Urea	26.00	mg/dL	17.00 - 43.00
Creatinine	0.87	mg/dL	0.67 - 1.17



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Test Name Uric Acid	Results 5.50	<b>Units</b> mg/dL	<b>Bio. Ref. Interval</b> 3.50 - 7.20
Calcium, Total	9.00	mg/dL	8.80 - 10.60
Phosphorus	2.90	mg/dL	2.30 - 3.70
Sodium	138.00	mEq/L	136.00 - 146.00
Potassium	3.95	mEq/L	3.50 - 5.10
Chloride	103.00	mEq/L	101.00 - 109.00





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Test Name	Results	Units	Bio. Ref. Interval
HbA1c (GLYCOSYLATED HEMOGLOBIN), BLOOD (HPLC)			
HbA1c Estimated average glucose (eAG)	<b>10.9</b> 266	% mg/dL	4.00 - 5.60

## Interpretation

HbA1c result is suggestive of Diabetes/ Higher than glycemic goal in a known Diabetic patient.

Please note, Glycemic goal should be individualized based on duration of diabetes, age/life expectancy, comorbid conditions, known CVD or advanced microvascular complications, hypoglycaemia unawareness, and individual patient considerations

Result Rechecked,

Please Correlate Clinically.

**Note:** Presence of Hemoglobin variants and/or conditions that affect red cell turnover must be considered, particularly when the HbA1C result does not correlate with the patient's blood glucose levels.

FACTORS THAT INTERFERE WITH HbA1C   MEASUREMENT	FACTORS THAT AFFECT INTERPRETATION   OF HBA1C RESULTS
Hemoglobin variants,elevated fetal hemoglobin (HbF) and chemically modified derivatives of hemoglobin (e.g. carbamylated Hb in patients with renal failure) can affect the accuracy of HbA1c measurements	Any condition that shortens erythrocyte survival or decreases mean erythrocyte age (e.g.,recovery from acute blood loss, hemolytic anemia, HbSS, HbCC, and HbSC) will falsely lower HbAlc test results regardless of the assay method used.Iron deficiency anemia is associated with higher HbAlc





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Test Name	Results	Units	Bio. Ref. Interval
GLUCOSE, FASTING (F), PLASMA (Hexokinase)	280.00	mg/dL	70.00 - 100.00
VITAMIN B12; CYANOCOBALAMIN, SERUM (CLIA)	344.00	pg/mL	211.00 - 911.00

#### **Notes**

A/c Status

- 1. Interpretation of the result should be considered in relation to clinical circumstances.
- It is recommended to consider supplementary testing with plasma Methylmalonic acid (MMA) or
  plasma homocysteine levels to determine biochemical cobalamin deficiency in presence of clinical
  suspicion of deficiency but indeterminate levels. Homocysteine levels are more sensitive but MMA is
  more specific
- 3. False increase in Vitamin B12 levels may be observed in patients with intrinsic factor blocking antibodies, MMA measurement should be considered in such patients
- 4. The concentration of Vitamin B12 obtained with different assay methods cannot be used interchangeably due to differences in assay methods and reagent specificity

VITAMIN D, 25 - HYDROXY, SERUM	62.27	nmol/L	
(Chemiluminescence)			

## Interpretation

LEVEL 	REFERENCE RANGE IN nmol/L	COMMENTS
Deficient	< 50	High risk for developing     bone disease
Insufficient     	50-74	Vitamin D concentration     Which normalizes     Parathyroid hormone     concentration
Sufficient	75-250	Optimal concentration     for maximal health benefit
Potential   intoxication	>250	   High risk for toxic

Note



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- The assay measures both D2 (Ergocalciferol) and D3 (Cholecalciferol) metabolites of vitamin D.
- 25 (OH)D is influenced by sunlight, latitude, skin pigmentation, sunscreen use and hepatic function.
- Optimal calcium absorption requires vitamin D 25 (OH) levels exceeding 75 nmol/L.
- It shows seasonal variation, with values being 40-50% lower in winter than in summer.
- Levels vary with age and are increased in pregnancy.
- A new test Vitamin D, Ultrasensitive by LC-MS/MS is also available

### Comments

Vitamin D promotes absorption of calcium and phosphorus and mineralization of bones and teeth. Deficiency in children causes Rickets and in adults leads to Osteomalacia. It can also lead to Hypocalcemia and Tetany. Vitamin D status is best determined by measurement of 25 hydroxy vitamin D, as it is the major circulating form and has longer half life (2-3 weeks) than 1,25 Dihydroxy vitamin D (5-8 hrs).

### **Decreased Levels**

- · Inadequate exposure to sunlight
- Dietary deficiency
- Vitamin D malabsorption
- Severe Hepatocellular disease
- Drugs like Anticonvulsants
- Nephrotic syndrome

### Increased levels

Vitamin D intoxication



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Test Name	Results	Units	Bio. Ref. Interval
THYROID PROFILE,TOTAL, SERUM (Chemiluminescent Immunoassay)			
T3, Total	0.87	ng/mL	0.60 - 1.81
T4, Total	8.30	μg/dL	5.01 - 12.45
тѕн	1.25	μIU/mL	0.35 - 5.50

### Note

- 1. TSH levels are subject to circadian variation, reaching peak levels between 2 4.a.m. and at a minimum between 6-10 pm . The variation is of the order of 50% . hence time of the day has influence on the measured serum TSH concentrations.
- 2. Alteration in concentration of Thyroid hormone binding protein can profoundly affect Total T3 and/or Total T4 levels especially in pregnancy and in patients on steroid therapy.
- 3. Unbound fraction (Free,T4 /Free,T3) of thyroid hormone is biologically active form and correlate more closely with clinical status of the patient than total T4/T3 concentration
- 4. Values <0.03 uIU/mL need to be clinically correlated due to presence of a rare TSH variant in some individuals





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Test Name	Results	Units	Bio. Ref. Interval
LIPID SCREEN, SERUM (Enzymatic Spectrophotometry)			
Cholesterol, Total	151.00	mg/dL	<200.00
Triglycerides	171.00	mg/dL	<150.00
HDL Cholesterol	43.80	mg/dL	>40.00
LDL Cholesterol, Calculated	73.00	mg/dL	<100.00
VLDL Cholesterol,Calculated	34.20	mg/dL	<30.00
Non-HDL Cholesterol	107	mg/dL	<130

# Interpretation

REMARKS	TOTAL CHOLESTEROL   in mg/dL	TRIGLYCERIDE   in mg/dL	LDL CHOLESTEROL   in mg/dL	NON HDL CHOLESTEROL   in mg/dL
Optimal	<200	<150	<100	<130
Above Optimal	<del>-</del>		100-129	130 - 159
Borderline High	200-239	150-199	130-159	160 - 189
High	>=240	200-499	160-189	190 - 219
Very High	-	>=500	>=190	>=220

### Note

- 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. NLA-2014 recommends a complete lipoprotein profile as the initial test for evaluating cholesterol.



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Test Name Results Units Bio. Ref. Interval

- Friedewald equation to calculate LDL cholesterol is most accurate when Triglyceride level is < 400 mg/dL. Measurement of Direct LDL cholesterol is recommended when Triglyceride level is > 400 mg/dL
- 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 HDI
- 5. Apolipoprotein B is an optional, secondary lipid target for treatment once LDL & Non HDL goals have been achieved
- 6. Additional testing for Apolipoprotein B, hsCRP,Lp(a ) & LP-PLA2 should be considered among patients with moderate risk for ASCVD for risk refinement

### Treatment Goals as per Lipid Association of India 2016

RISK CATEGORY	TREA	TMENT GOAL	CONSI	DER THERAPY
CATEGORY	LDL CHOLESTEROL (LDL-C)(mg/dL)	NON HDL CHLOESTEROL (NON HDL-C) (mg/dL)	LDL CHOLESTEROL (LDL-C)(mg/dL)	NON HDL CHLOESTEROL   (NON HDL-C) (mg/dL)
Very   High	<50 	<80	>=50	>=80   
High	<70	<100	>=70	>=100
Moderate	<100	<130	>=100	>=130
Low	<100	<130	>=130*	>=160*

<sup>\*</sup>In low risk patient, consider therapy after an initial non-pharmacological intervention for at least 3 months

# Interpretation

REMARKS	TOTAL CHOLESTEROL in mg/dL	   TRIGLYCERIDE   in mg/dL	LDL CHOLESTEROL   in mg/dL	NON HDL CHOLESTEROL     in mg/dL
Optimal	<200	<150	<100	<130
Above Optimal			100-129	130 - 159
Borderline High	200-239	150-199	130-159	160 - 189
High	>=240	200-499	160-189	190 - 219



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Reported



A28 - MR. MANINDAR SINGH - ANVI COLLECTION CENTRE, SIRSA SANJEEV MARKET, SIRSA, NEAR HANUMAN TEMPLE, G.B. NAGAR, UP

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Te	est Name	ı	Results	Units	Bio. Ref. Interval	
	Very High	-	>=500	>=190	>=220	

#### Note

- 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. NLA-2014 recommends a complete lipoprotein profile as the initial test for evaluating cholesterol.
- 3. Friedewald equation to calculate LDL cholesterol is most accurate when Triglyceride level is < 400 mg/dL. Measurement of Direct LDL cholesterol is recommended when Triglyceride level is > 400 mg/dL
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### Treatment Goals as per Lipid Association of India 2016

RISK   CATEGORY	TREA	TMENT GOAL	CONSIDER THERAPY		
CATEGORY	LDL CHOLESTEROL (LDL-C)(mg/dL)	NON HDL CHLOESTEROL (NON HDL-C) (mg/dL)	LDL CHOLESTEROL (LDL-C)(mg/dL)	NON HDL CHLOESTEROL (NON HDL-C) (mg/dL)	
Very   High	<50	<80	>=50	>=80	
High	<70	<100	>=70	>=100	
Moderate	<100	<130	>=100	>=130	
Low	<100	<130	>=130*	>=160*	

\*In low risk patient, consider therapy after an initial non-pharmacological intervention for at least 3 months



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Lake Dr. Lat Path

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Male

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Test Name	Results	Units	Bio. Ref. Interval
IRON STUDIES MONITORING PANEL			
Iron	68.00	ug/dL	65.00 - 175.00
Total Iron Binding Capacity (TIBC)	370.69	μg/dL	250 - 425
Transferrin Saturation	18.34	%	20.00 - 50.00
Ferritin	27.60	ng/mL	22.00 - 322.00

#### Comment

A/c Status

**Iron** is an essential trace mineral element which forms an important component of hemoglobin, metallocompounds and Vitamin A. Deficiency of iron, leads to microcytic hypochromic anemia. The toxic effects of iron are deposition of iron in various organs of the body and hemochromatosis.

**Total Iron Binding capacity (TIBC)** is a direct measure of the protein Transferrin which transports iron from the gut to storage sites in the bone marrow. In iron deficiency anemia, serum iron is reduced and TIBC increases.

**Transferrin Saturation** occurs in Idiopathic hemochromatosis and Transfusional hemosiderosis where no unsaturated iron binding capacity is available for iron mobilization. Similar condition is seen in congenital deficiency of Transferrin.

**Ferritin** appears to be in equilibrium with tissue ferritin and is a good indicator of storage iron in normal subjects and in most disorders. In patients with some hepatocellular diseases, malignancies and inflammatory diseases, serum ferritin is a disproportionately high estimate of storage iron because serum ferritin is an acute phase reactant. In such disorders iron deficiency anemia may exist with a normal serum ferritin concentration. In the presence of inflammation, persons with low serum ferritin are likely to respond to iron therapy.

HERPES SIMPLEX VIRUS (HSV) 1 + 2 ANTIBODIES PANEL, IgG & IgM, SERUM @ (CLIA)					
Herpes simplex virus 1+2, IgG	4.59	Index	<0.90		
Herpes simplex virus 1+2, IgM	<0.500	Index	<0.90		

# Interpretation

| HSV 1 + 2 IgG RESULT | HSV 1 + 2 IgM RESULT | REMARKS |



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7	Test Name		Results	Units	Bio.
	IN INDEX	IN INDEX			
	<0.90	<0.90	Negative		
	0.90-<1.10	0.90-<1.10	Equivocal		
	≥1.10	≥1.10	Positive		

### HSV 1 + 2 lgG

#### Note

- 1. This assay is used for qualitative detection of specific IgG antibodies to Herpes Simplex virus (1+2) in serum samples only. However in interpreting CSF HSV IgG levels it should be done in conjunction with serum IgG levels and ratio of 4:1 is considered significant indicating HSV encephalitis.
- 2. Positive result indicates past infection with Herpes Simplex virus or administration of HSV immunoglobulins. Pregnant females with positive HSV specific IgG antibodies are considered to be immune and hence risk of transmission of infection to fetus is minimal.
- 3. Equivocal results should be re-tested in 10-14 days.
- 4. Negative result indicates person has not been exposed to Herpes Simplex virus in the past. Patients with negative results in suspected disease should be re-tested after 10-14 days. False negative results can be due to immunosuppression or due to low/undetectable level of IgG antibodies.
- 5. HSV serology cannot distinguish genital from nongenital infections.
- 6. The result should be interpreted in conjunction with clinical finding and other diagnostic tests.
- 7. The magnitude of the measured result is not indicative of the amount of antibody present.

### **HSV 1 + 2 IgM**

### Note

- 1. This assay is used for qualitative detection of specific IgM antibodies to Herpes Simplex virus (1&2) in serum samples only.
- Positive result for Herpes Simplex virus IgM may indicate acute infection, reinfection or reactivation of latent virus. Persistence of low level HSV IgM antibodies following post infection over a long period is not uncommon. False positive reaction may occur due to high levels of rheumatoid factor or during the course of other viral illnesses due to cross reactivity.
- 3. An equivocal result requires repeat testing in 10-14 days.
- 4. Negative result for Herpes Simplex virus IgM indicates no Herpes Simplex virus infection. False negative reaction may be due to processing of sample collected early in the course of disease or absence of immune response.
- 5. HSV serology cannot distinguish genital from nongenital infections.
- 6. The result should be interpreted in conjunction with clinical finding and other diagnostic tests.



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7. The magnitude of the measured result is not indicative of the amount of antibody present.

### Comment

Herpes simplex virus (HSV) types 1 and 2 are members of the Herpesviridae family, and produce infections that may range from mild stomatitis to disseminated and fatal disease. Infections with HSV types 1 and 2 can differ significantly in their clinical manifestations and severity which can range from gingivostomatitis, keratitis, encephalitis, vesicular skin eruptions, aseptic meningitis, neonatal herpes, genital tract infections, and disseminated primary infection.

HSV type 2 primarily causes urogenital infections and is found almost exclusively in adults. HSV type 1 is closely associated with orolabial infection, although genital infection with this virus can be common in certain populations. Once infection occurs, HSV persists in a latent state in sensory ganglia from where it may re-emerge to cause periodic recurrence of infection induced by many stimuli, which may or may not result in clinical lesions.

Asymptomatic infections may occur in healthy individuals and during pregnancy. Once infection occurs, HSV persists in a latent state in sensory ganglia from where it may re-emerge to cause periodic recurrence of infection induced by many stimuli, which may or may not result in clinical lesions. In immunocompromised patients the disease is more severe and they are more likely to have frequent HSV recurrences. This suggests that serum antibody and virus-specific cell-mediated immunity contribute to recovery. Pregnant women who develop genital herpes are two to three times more likely to have spontaneous abortions or deliver a premature infant than are pregnant non-infected women. Infection in neonates occur during passage through birth canal and may result in neurological damage.

	_		
HSV (1+2) IgM 	HSV (1+2)   IgG	Remarks	
Negative	Negative	No infection or very early infection; no previous exposure	
Positive	Negative	Acute infection	
Positive	Positive 	Acute infection; Chronic infection; could indicate re-activation; IgM may be positive for several months after the infection resolves.	
Negative	Positive	Past infection	



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263.00	pg/mL	89.00	NT- ProBNP (N-TERMINAL PRO B TYPE
			, 3
263.00	pg/mL	89.00	NT- ProBNP (N-TERMINAL PRO B TYPE NATRIURETIC PEPTIDE) @ (ECLIA)

Male

#### Note

A/c Status

1. NT-pro-BNP value increases with age , elevated levels can be seen in apparently healthy individual with increasing age

Gender:

- 2. NT-pro-BNP values need to be interpreted in conjunction with the medical history, clinical findings and other information
- 3. NT pro-BNP value <125 pg/mL exclude cardiac dysfunction with a high level of certainty in patients presenting with dyspnea
- 4. Lack **of** NT-ProBNP elevation has been reported if Congestive Heart Failure (CHF) is very acute (first hour) or if there is Ventricular inflow obstruction

## Comments

NT-ProBNP is a marker of atrial & ventricular distension due to increased intracardiac pressure, hence it is used as an aid in the diagnosis of CHF. The diagnostic strength of NT-ProBNP is their high sensitivity for ruling out heart failure; however, as the value increases heart failure becomes more likely. NT-ProBNP levels are correlated with New York Heart Association (NYHA) functional classes for CHF.

#### NYHA functional classification for CHF

ļ	CLASSES	5th - 95th PERCENTILE	PERCENT >125 pg/mL
	I	33-3410	78.6
	II	103-6567	94.0
	III	126-10449	95.3
i	IV	148-12188	97.1

\* Not in NABL scope



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### Interpretation in patients presenting with acute dyspnea

Category	Optimal Cut-off   (pg/mL)	Sensitivity    (%)	Specificity (%)	PPV   (%)	NPV   (%)	Accuracy
Rule in cut-	off					
<50 years	450	97	93	79	99	94
50-75 years	900	90	82	83	88	85
>75 years	1800	85	73	92	55	83
Rule out cut-off						
All Patients	300	99	60	77	98	83

-----

### **Clinical Uses**

- · As an aid in the diagnosis of suspected cases of CHF
- · Detection of mild forms of cardiac dysfunction
- To assess severity of heart failure in already diagnosed cases of CHF
- For risk stratification of patients with Acute Coronary Syndrome (ACS) & CHF
- For monitoring therapy in patients with Left Ventricular dysfunction

# **Limitations of NT-ProBNP**

Higher levels than expected	Lower levels than expected
Increasing age ACS Renal insufficiency RV Dysfunction Atrial fibrillation Pulmonary hypertension Pulmonary embolism Anemia Sepsis Mitral Regurgitation	Obesity Pulomanary edema Pericarditis/tamponade Genetic polymorphism

<sup>\*</sup> Not in NABL scope



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TROPONIN- T, HIGH SENSITIVE, SERUM @ 11.22 pg/mL <14.00

(ECLIA)

Lab No.

A/c Status

#### Interpretation

INITIAL RESULT IN pg/mL	REMARKS
<14	The upper reference limit (99th percentile) for high sensitive Troponin T(hsTn)
> 14 - < 53	Repeat sampling after 3 hours.50% change in initial value is diagnostic of Myocardial infarction (MI)
>53 - 100	Repeat sampling after 3 hours.20% change in initial value is diagnostic of Myocardial infarction (MI)
>100	WHO cut-off value diagnostic for MI

### Note

- 1. False positive results can be seen in the presence of Rheumatoid factor and heterophile antibodies.
- 2. Due to the release kinetics of cardiac troponin T, an initial test result < 99th percentile within the initial hours of onset of symptoms does not rule out Myocardial Infarction with certainty. If MI is still suspected, repeat the test 3 hours after initial assessment.

# Comments

Cardiac Troponin is a cardiospecific, highly sensitive marker of myocardial damage, but is also expressed by diseased skeletal muscle. Troponin T levels rise in serum about 3-4 hours after appearance of cardiac symptoms and remain elevated upto 14 days. It is an independent prognostic marker which can predict near, mid and long term outcome in patients with Acute Coronary Syndrome (ACS). It is also a useful tool in guiding anti-thrombotic therapy. Patients with ischemic symptoms who have elevated Troponin T levels receive greater benefit from Antiplatelet and Antithrombotic therapies.

## **Increased Levels**

- Cardiac causes: Congestive Heart Failure, Cardiomyopathy, Myocarditis, Heart contusion, Interventional therapy like cardiac surgery and drug induced cardiotoxicity
- Non cardiac causes: Renal Failure, Lung embolism, Non-cardiac surgery, Rhabdomyolysis,
   Polymyositis, Stroke & Left Ventricular dysfunction in Septic shock

#### Uses

\* Not in NABL scope



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Name Mr. SUDHIR JAIN

Lab No.

A/c Status

300837902

Age: 60 Years

Gender: Male Collected Received : 6/4/2021 10:16:00AM 6/4/2021 3:35:52PM

: 7/4/2021 2:10:29PM Reported

**Report Status** Final

**Test Name** Results Units Bio. Ref. Interval

Exclusion diagnosis of Acute Myocardial Infarction

Ref By: SELF

Monitoring Acute Coronary syndromes and estimating prognosis

Monitoring patients with non-ischemic causes of cardiac injury

IMMUNOGLOBULIN IgE, SERUM @

79.30

kUA/L

<64.00

(ImmunoCAP,FEIA)

- Note: 1. Normal levels of IgE do not rule out possibility of IgE dependent allergies as the diagnostic sensitivity of the test depends upon elapsed time between exposure to an allergen and testing, patient age and affected target organs.
  - 2. No close correlation has been demonstrated between severity of allergic reaction and IgE levels.

#### Comments

Immunoglobulin E (IgE) is the most important trigger molecule for allergic information. The level of IgE is low during the first year of life, gradually increases with age and reaches adult levels after 10 years. As IgE is a mediator of allergic response, quantitative measurement can provide useful information for differential diagnosis of atopic and non-atopic disease. Patients with atopic diseases like Allergic asthma, Allergic rhinitis & Atopic dermatitis have moderately elevated IgE levels.

Increased Levels - Atopic/Non-atopic allergy, Hyper IgE syndrome, Parasitic infections, IgE Myeloma, Pulmonary Aspergillosis, Immunodeficiency states & Autoimmune diseases

### Uses

- Evaluation of children with strong family history of allergies and early clinical signs of disease
- Evaluation of children and adults suspected of having allergic respiratory disease to establish the diagnosis and define the allergens
- To confirm clinical expression of sensitivity to foods in patients with Anaphylactic sensitivity or with Asthma, Angioedema or Cutaneous disease
- To evaluate sensitivity to insect venom allergens particularly as an aid in defining venom specificity in those cases in which skin tests are equivocal
- To confirm the presence of IgE antibodies to certain occupational allergens

**ERYTHROCYTE SEDIMENTATION RATE (ESR)** (Capillary photometry)

mm/hr

0.00 - 20.00

\* Not in NABL scope



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Name : Mr. SUDHIR JAIN

Lab No. 300837902 Age: 60

Age: 60 Years Gender:

SELF

Male

Received Reported : 6/4/2021 10:16:00AM : 6/4/2021 3:35:52PM

: 7/4/2021 2:10:29PM

Report Status : Final

Test Name Results Units Bio. Ref. Interval

#### Note

A/c Status

1. C-Reactive Protein (CRP) is the recommended test in acute inflammatory conditions.

2. Test conducted on EDTA whole blood at 37°C.

Ref By:

3. ESR readings are auto- corrected with respect to Hematocrit (PCV) values.

CORTISOL, MORNING, SERUM @

10.10

µg/dL

4.30 - 22.40

(CLIA)

**Note:** Cortisol is best measured in the morning when evaluating for possible Adrenal Insufficiency and best measured in the afternoon or evening to differentiate normal and Cushings Syndrome subjects. Diurnal rhythmicity of cortisol is increased by systemic disease and stress.

### **Clinical Use**

\* Direct assessment of Adrenal function

Increased levels: Cushings Syndrome, Ectopic ACTH syndrome, Ectopic CRH syndrome, Adrenal adenoma / carcinoma, Adrenal micronodular dysplasia, Adrenal macronodular hyperplasia, Stress

Decreased Levels - Addisons disease, Pituitary dysfunction

**C-REACTIVE PROTEIN; CRP, SERUM** 

2.30

mg/L

<6.00

Comments

(Immunoturbidimetry)

CRP is an acute phase reactant which is used in inflammatory disorders for monitoring course and effect of therapy. It is most useful as an indicator of activity in Rheumatoid arthritis, Rheumatic fever, tissue injury or necrosis and infections. As compared to ESR, CRP shows an earlier rise in inflammatory disorders which begins in 4-6 hrs, the intensity of the rise being higher than ESR and the recovery being earlier than ESR. Unlike ESR, CRP levels are not influenced by hematologic conditions like Anemia, Polycythemia etc.

HOMOCYSTEINE, QUANTITATIVE, SERUM \*

17.22

umol/l

3.70 - 13.90

(Chemiluminescent Microparticle Immunoassay)

### Comments

Homocysteine is a sulphur containing amino acid. There is an association between elevated levels of circulating homocysteine and various vascular and cardiovascular disorders. Clinically the measurement of homocysteine is considered important to diagnose homocystinuria, to identify individuals with or at risk of

\* Not in NABL scope



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Reported

: 7/4/2021 2:10:29PM



A28 - MR. MANINDAR SINGH - ANVI **COLLECTION CENTRE, SIRSA** SANJEEV MARKET, SIRSA, NEAR HANUMAN TEMPLE, G.B. NAGAR, UP

Lab No.

Collected : 6/4/2021 10:16:00AM Name Mr. SUDHIR JAIN 6/4/2021 3:35:52PM Received 300837902 Age: 60 Years

Gender:

A/c Status Ref By: SELF Report Status Final

**Test Name** Results Units Bio. Ref. Interval developing cobalamin or folate deficiency & to assess risk factor for Cardiovascular Disease (CVD) for which the recommendations are:

Male

Specially useful in young CVD patients ( < 40 yrs)

- In known cases of CVD, high homocysteine levels should be used as a prognostic marker for CVD events and mortality
- CVD patients with homocysteine levels > 15 umol/L belong to a high risk group
- Increased homocysteine levels with low vitamin concentrations should be handled as a potential vitamin deficiency case.

IMMUNOGLOBULIN PROFILE, SERUM @ (Immunoturbidimetry)			
Immunogloublin IgG, Serum	904.00	mg/dL	700.00 - 1600.00
Immunogloublin IgM, Serum	55.80	mg/dL	40.00 - 230.00
Immunogloublin IgA, Serum	253.20	mg/dL	70.00 - 400.00

### Comments:

Approximately 80% of serum immunoglobulin is IgG, 6% is IgM and 13% is IgA. High levels of IgM signify acute infections whereas IgG predominates in chronic infections. IgA is the predominant immunoglobulin in body secretions like saliva, sweat and colostrums.

### Polyclonal increases are seen in:

IgG: SLE, Chronic liver diseases, Infectious diseases and Cystic fibrosis

IgM: Viral, bacterial and parasitic infections, Liver diseases, Rheumatoid arthritis, Scleroderma, Cystic fibrosis & heroin addiction

IgA: Chronic liver diseases, Chronic infections, Autoimmune disorders, Sarcoidosis and Wiscott-Aldrich syndrome.

Monoclonal increases are seen in IgG & IgA Myelomas and IgM increases in cases of Waldenstroms macroglobulinemia

\* Not in NABL scope



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Name : Mr. SUDHIR JAIN

45444440 4/3/4/4

300837902 Age: 60 Years

Ref By: SELF

Male

Collected Received : 6/4/2021 10:16:00AM

Received : 6/4/2021 3:35:52PM Reported : 7/4/2021 2:10:29PM

Report Status : Final

Test Name Results Units Bio. Ref. Interval

Decreased synthesis of IgG, IgM & IgA is seen in Congenital and Acquired Immunodeficiency diseases.

Gender:

Decreased levels are seen in Protein losing enteropathies, Nephrotic syndrome and skin burns.

PROLACTIN, SERUM

Lab No.

A/c Status

6.00

ng/mL

2.10 - 17.70

(Chemiluminescent Immunoassay)

- **Note:** 1. Since prolactin is secreted in a pulsatile manner and is also influenced by a variety of physiologic stimuli, it is recommended to test 3 specimens at 20-30 minute intervals after pooling.
  - 2. Major circulating form of Prolactin is a nonglycosylated monomer, but several forms of Prolactin linked with immunoglobulin occur which can give falsely high Prolactin results.
  - 3. Macroprolactin assay is recommended if prolactin levels are elevated, but signs and symptoms of hyperprolactinemia are absent or pituitary imaging studies are normal

### **Clinical Use**

- Diagnosis & management of pituitary adenomas
- Differential diagnosis of male & female hypogonadism

# **Increased Levels**

- Physiologic: Sleep, stress, postprandially, pain, coitus
- Systemic disorders: Chest wall or thoracic spinal cord lesions, Primary / Secondary hypothyroidism,
   Adrenal insufficiency, Chronic renal failure, Cirrhosis
- Medications:
  - Psychiatric medications like Phenothiazine, Haloperidol,
     Risperidone, Domperidone, Fluoexetine, Amitriptylene, MAO inhibitors etc.,
  - Antihypertensives: Alphamethyldopa, Reserpine, Verapamil
  - Opiates: Heroin, Methadone, Morphine, Apomorphine
  - Cimetidine / Ranitidine
- Prolactin secreting pituitary tumors: Prolactinoma, Acromegaly
- Miscellaneous: Epileptic seizures, Ectopic secretion of prolactin by non-pituitary tumors, pressure / transaction of pituitary stalk, macroprolactinemia
- Idiopathic

#### **Decreased levels**

- Pituitary deficiency: Pituitary necrosis / infarction
- Bromocriptine administration

\* Not in NABL scope



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Name Mr. SUDHIR JAIN

> 300837902 Age: 60 Years

> > Ref By: SELF

Gender: Male Collected Received : 6/4/2021 10:16:00AM

6/4/2021 3:35:52PM : 7/4/2021 2:10:29PM Reported

**Report Status** Final

**Test Name** Results Units Bio. Ref. Interval

Pseudohypoparathyroidism

PSA (PROSTATE SPECIFIC ANTIGEN), FREE, SERUM @

0.139

ng/mL

Interpretation

(CMIA)

Lab No.

A/c Status

REFERENCE GROUP	FREE PSA 0-0.5 ng/mL	FREE PSA >0.5-2.5 ng/mL	FREE PSA >2.5-5.0 ng/mL	FREE PSA   >5.0-10   ng/mL	FREE PSA     >10.0   ng/mL
Healthy  males	87.2%	12.8%	0%	0%	0%
BPH	51.9%	42.9%	4.2%	0.5%	0.5%
Stage A  Prostate  Cancer	38.5%	42.3%	11.5%	3.8%	3.8%
Stage B  Prostate  Cancer	23.9%	68.7%	7.5%		

#### Note

- 1. Free PSA values regardless of levels should not be interpreted as absolute evidence for presence or absence of disease. All values should be correlated with clinical findings and results of other investigations
- 2. False negative / positive results are observed in patients receiving mouse monoclonal antibodies for diagnosis or therapy
- 3. Free PSA levels may appear consistently elevated / depressed due to the interference by heterophilic antibodies & nonspecific protein binding
- 4. Immediate Free PSA testing following digital rectal examination, ejaculation, prostatic massage, ultrasonography and needle biopsy of prostate is not recommended as they falsely elevate levels
- 5. Hormone therapy affects Free PSA expression

## Clinical Use

- An aid in the early detection of Prostate cancer in males 50 years or older with Total PSA values between 4.0 and 10.0 ng/mL and nonsuspicious digital rectal examination.
- · An aid in discriminating between Prostate cancer and Benign Prostatic disease. Free PSA level is not used alone, but is mostly useful when expressed in a ratio with Total PSA. Hence PSA profile (Total + Free PSA) is the recommended test. Patients with benign conditions have a higher proportion of



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<sup>\*</sup> Not in NABL scope



A/c Status : P Ref By : SELF Report Status : Final

Test Name Results Units Bio. Ref. Interval

Free PSA compared with Prostate cancer

PSA (PROSTATE SPECIFIC ANTIGEN), TOTAL, 0.490 ng/mL <4.00
SERUM \*
(CMIA)

#### Note

- False low / high results may be observed in patients receiving mouse monoclonal antibodies for diagnosis/therapy or due to interference by heterophilic antibodies & nonspecific protein binding or on high dose Biotin therapy.
- 2. Immediate PSA testing following digital rectal examination, ejaculation, prostatic massage, indwelling catheterization, ultrasonography and needle biopsy of prostate is not recommended as they falsely elevate levels. Elevated levels of PSA can also be seen in Benign Prostatic disease, Prostatis and/or Urinary tract infection.
- PSA values regardless of levels should not be interpreted as absolute evidence of the presence or absence of disease. All values should be correlated with clinical findings and results of other investigations.
- 4. Physiological decrease in PSA level by 18% has been observed in hospitalized / sedentary patients either due to supine position or suspended sexual activity.
- 5. Prostate Health Index, OncoPro Prostate Screen are other recommended assay for PSA levels between 4-10 ng/mL (gray zone). It helps physicians to decide if biopsy is necessary.

TESTOSTERONE, TOTAL, SERUM *	504.83	ng/dL	86.49 - 788.22	
(Chemiluminescent Immunoassay)				
TROPONIN I, SERUM @	10.000	pg/mL	<26.20	
HIGH SENSITIVE				
(CMIA)				

## Interpretation

	INITIAL RESULT in pg/mL	REMARKS		
	<pre>&lt;26.2</pre>			
<pre>&lt;26.2 &amp; Repeat sampling after 3 hrs, a 50% change from initial val pain &lt;6hrs   diagnostic of Myocardial infarction (MI)</pre>		Repeat sampling after 3 hrs, a 50% change from initial value is diagnostic of Myocardial infarction (MI)		
İ	>26.2-262	Repeat sampling after 3 hrs, 50% change from initial value is		

<sup>\*</sup> Not in NABL scope



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A/c Status : P Ref By : SELF Report Status : Final

Test Name		Results	Units	Bio. Ref. Interval
	diagnostic of Myocard	dial infarction (M	MI)	
>262	MI may be ruled in as	appropriate with	98% specificity	

## Note:

- 1. Serial sampling to detect the temporal rise and fall of cTnI levels is recommended for the differentiation of acute cardiac events from chronic cardiac disease
- 2. Any condition resulting in myocardial injury can potentially increase hsTnI levels thus the results should be used in conjunction with other information such as ECG, clinical observations & symptoms, etc. to diagnose MI
- 3. A single hsTnl result may not be sufficient to evaluate MI. Serial blood draws are recommended for evaluation of Acute Coronary Syndrome (ACS)
- 4. False positive results can be seen in the presence of Rheumatoid factor and heterophile antibodies

#### Comment

Troponins are a group of proteins - C, I & T found in cardiac and skeletal muscle as a complex which regulates calcium dependent interaction of actin and myosin. The cardiac forms of Troponin I (cTnI) & Troponin T (cTnT) are distrinct from skeletal muscle forms. Cardiac Troponin is a cardiospecific, highly sensitive marker of myocardial damage and has never shown to be expressed in normal, regenerating or diseased skeletal muscle. In cases of acute myocardial damage, Troponin I levels rise in serum about 4-6 hours after appearance of cardiac symptoms and remain elevated upto 7-12 days of cardiac injury. It is an independent prognostic marker which can predict near, mid and long term outcome in patients with Acute Coronary Syndrome (ACS).

#### **Increased Levels**

Congestive Heart Failure, Cardiomyopathy, Myocarditis, Heart contusion, Interventional therapy like cardiac surgery and drug induced cardiotoxicity

## Uses

• To differentiate patients with Non ST elevation Myocardial Infarction (NSTMI) from Unstable angina - patients with ACS with elevated Troponin I and / or CK-MB are considered to have NSTMI whereas the diagnosis of Unstable angina is established if Troponin I and CK-MB are within the normal range. Ideally Troponin I should be measured at presentation (0 hour) and repeated after 6-9 hours & 12-24 hours if earlier specimens are normal and the clinical suspicion is high.

\* Not in NABL scope



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Name : Mr. SUDHIR JAIN

Lab No.

A/c Status

300837902 Age: 60 Years

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Test Name Results Units Bio. Ref. Interval

- Risk stratification of patients presenting with ACS and for cardiac risk in patients with Chronic Renal Failure. As it offers powerful risk assessment, in ACS, Troponin I monitoring should be included in practice guidelines.
- For selection of more intensive therapy and intervention in patients with elevated Troponin I.

\* Not in NABL scope



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Name Mr. SUDHIR JAIN

Lab No. 300837902

Age: 60 Years

Ref By: SELF

Male

Collected Received Reported

6/4/2021 10:16:00AM 6/4/2021 3:35:52PM 7/4/2021 2:10:29PM

**Report Status** : Final

**Test Name** Results Units Bio. Ref. Interval

Gender:

**Physical** 

A/c Status

Chemical

URINE EXAMINATION, ROUTINE; URINE, R/E

\_Please Repeat Sample

Microscopy

Dr Anil Arora MD, Pathology **HOD Hematology &** Immunohematology NRL - Dr Lal PathLabs Ltd

Dr Himangshu Mazumdar MD, Biochemistry Senior Consultant - Clinical Chemistry & Biochemical Genetics

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Biochemical Genetics NRL - Dr Lal PathLabs Ltd

Dr Parul Joshi MD, Pathology Chief of Laboratory Dr Lal PathLabs Ltd Dr Sunanda MD, Pathology Consultant

NRL - Dr Lal PathLabs Ltd

-End of report

# **IMPORTANT INSTRUCTIONS**

\*Test results released pertain to the specimen submitted.\*All test results are dependent on the quality of the sample received by the Laboratory \*Laboratory investigations are only a tool to facilitate in arriving at a diagnosis and should be clinically correlated by the Referring Physician .\*Sample repeats are accepted on request of Referring Physician within 7 days post reporting.\*Report delivery may be delayed due to unforeseen circumstances. Inconvenience is regretted.\*Certain tests may require further testing at additional cost for derivation of exact value. Kindly submit request within 72 hours post reporting.\*Test results may show interlaboratory variations.\*The Courts/Forum at Delhi shall have exclusive jurisdiction in all disputes/claims concerning the test(s) & or results of test(s).\*Test results are not valid for medico legal purposes. \*Contact customer care Tel No. +91-11-39885050 for all queries related to test results.

(#) Sample drawn from outside source.

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