**JITAL RAMESH SHAH**
115 3 Sanghar Bungalow
Lane No 14 Prabhat Road
Pune-411004
Tel No: 919823316416
PID: 121895

Age:43.20 Years Sex:MALE

Reference:Dr.--

**SID: 121115105**
**121115105**
Collection Date:
30-06-2021 12:30 PM
Sample Date:
30-06-2021 12:30 pm
Report Date:
30-06-2021 04:57 PM

| Test Description | Observed Value | Biological Reference Interval |
|---|---|---|
| **Lipid Profile Mini :** | | |
| Cholesterol (Total), serum by Enzymatic method | **254** | Desirable : < 200 mg/dL<br>Borderline high : 200 - 239 mg/dL<br>High : >/= 240 mg/dL |
| Triglycerides, serum by Enzymatic method | **264** | Normal : < 150 mg/dL<br>Borderline high : 150-199 mg/dL<br>High : 200-499 mg/dL<br>Very high : >/= 500 mg/dL |
| HDL Cholesterol, serum by Enzymatic method | **47** | Men : > 40 mg/dL<br>Women : > 50 mg/dL |
| VLDL Cholestrol, serum by calculation | **53** | < 30 mg/dL |
| LDL Cholesterol, serum by calculation | **154** | Optimal : <100 mg/dL<br>Near optimal/above optimal : 100-129 mg/dL<br>Borderline high : 130-159 mg/dL<br>High : 160-189 mg/dL<br>Very high : >/= 190 mg/dL |
| Cholesterol(Total)/HDL Cholesterol Ratio | **5.40** | Males : Acceptable ratio </= 5.00<br>Females : Acceptable ratio </= 4.50 |
| LDL Cholesterol/HDL Cholesterol Ratio | **3.28** | Males : Acceptable ratio </= 3.60<br>Females : Acceptable ratio </= 3.20 |

**Reference : ATP III, NCEP Guidelines and National Lipid Association (NLA) 2014 Recommendations**

As per most international and national guidelines including Lipid Association of India 2016 :

1. Lipoprotein and lipid levels should be considered in conjunction with other atherosclerotic cardiovascular disease (ASCVD) risk determinants to assess treatment goals and strategies.
2. Non-fasting lipid levels can be used in screening and in general risk estimation.



MC-3143

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| Test Description | Observed Value | Biological Reference Interval |
|---|---|---|
| **TEST NAME** | | |
| Glycated Hemoglobin (HbA1C), by HPLC | **5.50** | 4.0 to 5.6 % |

**Interpretation :**
HbA1C level reflects the mean glucose concentration over previous 8-12 weeks and provides better indication of long term glycemic control.

**For diagnosis of Diabetes Mellitus (>/= 18 yrs of age) :**
5.7 % - 6.4 % : Increased risk for developing diabetes.
>/= 6.5 % : Diabetes

**Therapeutic goals for glycemic control :**
Adults : < 7%
Toddlers and Preschoolers : < 8.5% (but > 7.5 %)
School age (6-12 yrs) : < 8%
Adolescents and young adults (13 - 19 yrs) : < 7.5 %

Levels of HbA1C may be low as result of shortened RBC life span in case of hemolytic anemia.
Increased HbA1C values may be found in patients with polycythemia or post splenectomy patients.
Patients with Homozygous forms of rare variant Hb(CC,SS,EE,SC) HbA1c can not be quantitated as there is no HbA. In such circumstances glycemic control can be monitored using plasma glucose levels or serum Fructosamine.

The A1c target should be individualized based on numerous factors, such as age, life expectancy, comorbid conditions, duration of diabetes, risk of hypoglycemia or adverse consequences from hypoglycemia, patient motivation and adherence.

Ref : ADA (Standards of Medical Care in Diabetes - 2017)



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| Test Description | Observed value | Biological Reference Interval |
|---|---|---|
| **HOMA Index Insulin Resistance Test** | | |
| Plasma glucose fasting, by Hexokinase method | **87** | < 100 mg/dL<br>100 to 125 mg/dL : Impaired fasting glucose tolerance / Prediabetes<br>>/= 126 mg/dL : Suggestive of diabetes mellitus<br>(On more than one occasion)<br>American Diabetes Association Guidelines 2020 |
| Insulin Fasting, Serum by CMIA | **11.60** | Fasting : 2.5 to 25 µU/mL<br>Peak upto 150 µU/mL |
| HOMA IR Index | **2.49** | > 2.5 indicates insulin resistance |

**Interpretation**

1. As, the direct measurement of the insulin effect on the blood sugar concentration is not possible other indices are used for determining an insulin resistance.
2. One of the most common indices is the HOMA index (Homeostasis Model Assessment), which is calculated according to the following formula:
   HOMA index = fasting insulin (µU/ml) X fasting blood sugar (mg/dl) /405
3. Indications :
   * Adiposis (BMI > 28 kg/m²)
   * Suspected insulin resistance (metabolic syndrome, diabetes mellitus type 2)
   * Suspected polycystic ovary syndrome (PCO-S)
   * Cycle disturbances (e. g. amenorrhea)
   * Infertility
4. Reference ranges :
   > 2.0 indication for insulin resistance
   > 2.5 insulin resistance probable
   > 5.0 average value in patients with diabetes mellitus type 2

Reference : https://www.bioscientia.de/en/files/2011/10/Marker



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REPORT

| Test Description | Observed Value | Reference range & Units |
|---|---|---|
| **TEST NAME** | | |
| Homocysteine,plasma by CMIA | **12.18** | Male : 5.08 to 15.39 µmol/Lt |

Homocysteine concentration is an indicator of acquired folate or cobalamin deficiency, and is a contributing factor in the pathogenesis of neural tube defects. Currently, the use of homocysteine for assessment of cardiovascular risk is uncertain and controversial. Based on several meta-analyses, at present, homocysteine may be regarded as a weak risk factor for coronary heart disease, and there is a lack of direct causal relationship between hyperhomocysteinemia and cardiovascular disease. It is most likely an indicator of poor lifestyle and diet. Homocysteine concentrations >13 mcmol/L are considered abnormal in patients evaluated for suspected nutritional deficiencies (B12, folate) and inborn errors of metabolism. Homocysteine concentrations < or =10 mcmol/L are desirable when utilized for cardiovascular risk.



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REPORT

| Test Description | Observed Value | Biological Reference Interval |
|---|---|---|
| CRP(hs) - C- Reactive Protein high sensitivity | **1.88** | See clinical information below . Method : Nephelometry / Immunoturbidimetry |

Clinical Information :

1. C-reactive protein (CRP) is a biomarker of inflammation. Plasma CRP concentrations increase rapidly and dramatically (100-fold or more) in response to tissue injury or inflammation.

2. High-sensitivity CRP (hs-CRP) is more precise than standard CRP when measuring baseline (i.e. normal) concentrations and enables a measure of chronic inflammation. It is recommended for cardiovascular risk assessment. Atherosclerosis is an inflammatory disease and hs-CRP has been endorsed by multiple guidelines as a biomarker of atherosclerotic cardiovascular disease risk.

Low cardiovascular risk : < 2.0 mg/L
High cardiovascular risk : >/= 2.0 mg/L
Acute inflammation : > 10.0 mg/L

3. A single test for high-sensitivity CRP (hs-CRP) may not reflect an individual patient's basal hs-CRP level. Repeat measurement may be required to firmly establish an individual's basal hs-CRP concentration. The lowest of the measurements should be used as the predictive value.

Reference : Mayo Medical Laboratories





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| Test Description | Observed Value | Biological Reference Interval |
|---|---|---|
| Anti SARS-CoV-2 spike protein (S1/S2) IgG | **Positive (72.7)** | Negative : < 12.0 AU/mL<br>Equivocal : >/=12.0 to < 15.0 AU/mL<br>Positive : >/= 15.0 AU/mL<br>Sample : Serum / Plasma<br>Method : CLIA |

**Remarks :**

* Assay is quantitative determination of SARS-CoV-2 IgG antibodies against S1/S2 spike protein.

* Assay provides an indication of the presence of neutralising IgG antibodies against SARS-CoV-2, thus of protective immunity.

* SARS-CoV-2 IgG antibodies usually appear after 2-3 weeks (14-21 days) of infection or 2 weeks post second dose of vaccination.

* Helpful to detect post vaccination immune response to all types of COVID-19 vaccines.

| AU/mL | Results | Retest rules and interpretation |
|---|---|---|
| < 12.0 | Negative | No retest is required. A negative result may indicate the absence or a very low level of IgG antibodies to the pathogen. The test could score negative in infected patients during the incubation period and in the early stages of inection. |
| >/=12 to < 15 | Equivocal | A second sample should be collected and tested no less than one to two weeks later when the result is equivocal. |
| >/= 15 | Positive | No retest is required. A positive result generally indicates exposure of the subject to the pathogen or post vaccination immune respone. |

** SARS-CoV-2 IgG test is not useful for diagnosis of acute infection.

Reference : 1. ICMR Advisory dated 23/06/2020
2. Kit insert

End of Report

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