| Name | : | **Mr. SHANMUGAVELU RAMAN** | | | |
|---|---|---|---|---|---|
| **PID No.** | : | MED111517890 | **Register On** | : | 25/02/2023 8:10 AM |
| **SID No.** | : | 223003081 | **Collection On** | : | 25/02/2023 8:55 AM |
| **Age / Sex** | : | 59 Year(s) / Male | **Report On** | : | 25/02/2023 3:40 PM |
| **Type** | : | OP | **Printed On** | : | 01/03/2023 1:40 PM |
| **Ref. Dr** | : | **MediWheel** | | | |

**medall**
**DIAGNOSTICS**

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| BLOOD GROUPING AND Rh TYPING <br> (EDTA Blood/*Agglutination*) | 'O' 'Positive' | | |

**INTERPRETATION:** Reconfirm the Blood group and Typing before blood transfusion

### *Complete Blood Count With - ESR*

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| Haemoglobin <br> (EDTA Blood/*Spectrophotometry*) | 14.4 | g/dL | 13.5 - 18.0 |
| Packed Cell Volume(PCV)/Haematocrit <br> (EDTA Blood/*Derived from Impedance*) | 43.5 | % | 42 - 52 |
| RBC Count <br> (EDTA Blood/*Impedance Variation*) | 4.82 | mill/cu.mm | 4.7 - 6.0 |
| Mean Corpuscular Volume(MCV) <br> (EDTA Blood/*Derived from Impedance*) | 90.3 | fL | 78 - 100 |
| Mean Corpuscular Haemoglobin(MCH) <br> (EDTA Blood/*Derived from Impedance*) | 29.9 | pg | 27 - 32 |
| Mean Corpuscular Haemoglobin concentration(MCHC) <br> (EDTA Blood/*Derived from Impedance*) | 33.2 | g/dL | 32 - 36 |
| RDW-CV <br> (EDTA Blood/*Derived from Impedance*) | 12.9 | % | 11.5 - 16.0 |
| RDW-SD <br> (EDTA Blood/*Derived from Impedance*) | 41.7 | fL | 39 - 46 |
| Total Leukocyte Count (TC) <br> (EDTA Blood/*Impedance Variation*) | 9090 | cells/cu.mm | 4000 - 11000 |
| Neutrophils <br> (EDTA Blood/*Impedance Variation & Flow Cytometry*) | 63.9 | % | 40 - 75 |
| Lymphocytes <br> (EDTA Blood/*Impedance Variation & Flow Cytometry*) | 21.3 | % | 20 - 45 |
| Eosinophils <br> (EDTA Blood/*Impedance Variation & Flow Cytometry*) | **7.3** | % | 01 - 06 |

Dr S SIVAKUMAR Ph.D
Consultant Microbiologist
**VERIFIED BY**

Dr Gurupriya J
Pathologist
Reg No: 13-48036

**APPROVED BY**

*The results pertain to sample tested.*                    Page 1 of 8

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| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| Monocytes (EDTA Blood/*Impedance Variation & Flow Cytometry*) | 6.7 | % | 01 - 10 |
| Basophils (EDTA Blood/*Impedance Variation & Flow Cytometry*) | 0.8 | % | 00 - 02 |
| **INTERPRETATION:** Tests done on Automated Five Part cell counter. All abnormal results are reviewed and confirmed microscopically. | | | |
| Absolute Neutrophil count (EDTA Blood/*Impedance Variation & Flow Cytometry*) | 5.80 | $10^3 / \mu l$ | 1.5 - 6.6 |
| Absolute Lymphocyte Count (EDTA Blood/*Impedance Variation & Flow Cytometry*) | 1.93 | $10^3 / \mu l$ | 1.5 - 3.5 |
| Absolute Eosinophil Count (AEC) (EDTA Blood/*Impedance Variation & Flow Cytometry*) | **0.67** | $10^3 / \mu l$ | 0.04 - 0.44 |
| Absolute Monocyte Count (EDTA Blood/*Impedance Variation & Flow Cytometry*) | 0.61 | $10^3 / \mu l$ | < 1.0 |
| Absolute Basophil count (EDTA Blood/*Impedance Variation & Flow Cytometry*) | 0.08 | $10^3 / \mu l$ | < 0.2 |
| Platelet Count (EDTA Blood/*Impedance Variation*) | 255 | $10^3 / \mu l$ | 150 - 450 |
| MPV (EDTA Blood/*Derived from Impedance*) | 12.0 | fL | 7.9 - 13.7 |
| PCT (EDTA Blood/*Automated Blood cell Counter*) | **0.305** | % | 0.18 - 0.28 |
| ESR (Erythrocyte Sedimentation Rate) (Blood/*Automated - Westergren method*) | 4 | mm/hr | < 20 |
| BUN / Creatinine Ratio | 9.7 | | 6.0 - 22.0 |
| Glucose Fasting (FBS) (Plasma - F/*GOD-PAP)* | **128.0** | mg/dL | Normal: < 100 Pre Diabetic: 100 - 125 Diabetic: >= 126 |

Dr S SIVAKUMAR Ph.D
Consultant Microbiologist
**VERIFIED BY**

Dr Gurupriya J
Pathologist
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**APPROVED BY**

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| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|

**INTERPRETATION:** Factors such as type, quantity and time of food intake, Physical activity, Psychological stress, and drugs can influence blood glucose level.

| | | | |
|---|---|---|---|
| Glucose, Fasting (Urine)<br>(Urine - F/*GOD - POD*) | Negative | | Negative |
| Glucose Postprandial (PPBS)<br>(Plasma - PP/*GOD-PAP*) | 130.6 | mg/dL | 70 - 140 |

**INTERPRETATION:**
Factors such as type, quantity and time of food intake, Physical activity, Psychological stress, and drugs can influence blood glucose level. Fasting blood glucose level may be higher than Postprandial glucose, because of physiological surge in Postprandial Insulin secretion, Insulin resistance, Exercise or Stress, Dawn Phenomenon, Somogyi Phenomenon, Anti- diabetic medication during treatment for Diabetes.

| | | | |
|---|---|---|---|
| Urine Glucose(PP-2 hours)<br>(Urine - PP) | Negative | | Negative |
| Blood Urea Nitrogen (BUN)<br>(Serum/*Urease UV / derived*) | 9.3 | mg/dL | 7.0 - 21 |
| Creatinine<br>(Serum/*Modified Jaffe*) | 0.95 | mg/dL | 0.9 - 1.3 |

**INTERPRETATION:** Elevated Creatinine values are encountered in increased muscle mass, severe dehydration, Pre-eclampsia, increased ingestion of cooked meat, consuming Protein/ Creatine supplements, Diabetic Ketoacidosis, prolonged fasting, renal dysfunction and drugs such as cefoxitin, cefazolin, ACE inhibitors, angiotensin II receptor antagonists,N-acetylcysteine, chemotherapeutic agent such as flucytosine etc.

| | | | |
|---|---|---|---|
| Uric Acid<br>(Serum/*Enzymatic*) | 4.6 | mg/dL | 3.5 - 7.2 |

### *Liver Function Test*

| | | | |
|---|---|---|---|
| Bilirubin(Total)<br>(Serum/*DCA with ATCS*) | 0.93 | mg/dL | 0.1 - 1.2 |
| Bilirubin(Direct)<br>(Serum/*Diazotized Sulfanilic Acid*) | 0.21 | mg/dL | 0.0 - 0.3 |
| Bilirubin(Indirect)<br>(Serum/*Derived*) | 0.72 | mg/dL | 0.1 - 1.0 |
| SGOT/AST (Aspartate Aminotransferase)<br>(Serum/*Modified IFCC*) | 19.9 | U/L | 5 - 40 |
| SGPT/ALT (Alanine Aminotransferase)<br>(Serum/*Modified IFCC*) | 22.2 | U/L | 5 - 41 |

Dr S SIVAKUMAR Ph.D
Consultant Microbiologist
**VERIFIED BY**

Dr Gurupriya J
Pathologist
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| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| GGT(Gamma Glutamyl Transpeptidase) (Serum/*IFCC / Kinetic*) | 14.9 | U/L | < 55 |
| Alkaline Phosphatase (SAP) (Serum/*Modified IFCC*) | 59.2 | U/L | 56 - 119 |
| Total Protein (Serum/*Biuret*) | 6.90 | gm/dl | 6.0 - 8.0 |
| Albumin (Serum/*Bromocresol green*) | 4.15 | gm/dl | 3.5 - 5.2 |
| Globulin (Serum/*Derived*) | 2.75 | gm/dL | 2.3 - 3.6 |
| A : G RATIO (Serum/*Derived*) | 1.51 | | 1.1 - 2.2 |

### *Lipid Profile*

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| Cholesterol Total (Serum/*CHOD-PAP with ATCS*) | 158.3 | mg/dL | Optimal: < 200<br>Borderline: 200 - 239<br>High Risk: >= 240 |
| Triglycerides (Serum/*GPO-PAP with ATCS*) | **178.0** | mg/dL | Optimal: < 150<br>Borderline: 150 - 199<br>High: 200 - 499<br>Very High: >=500 |

**INTERPRETATION:** The reference ranges are based on fasting condition. Triglyceride levels change drastically in response to food, increasing as much as 5 to 10 times the fasting levels, just a few hours after eating. Fasting triglyceride levels show considerable diurnal variation too. There is evidence recommending triglycerides estimation in non-fasting condition for evaluating the risk of heart disease and screening for metabolic syndrome, as non-fasting sample is more representative of the `usual` circulating level of triglycerides during most part of the day.

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| HDL Cholesterol (Serum/*Immunoinhibition*) | **38.0** | mg/dL | Optimal(Negative Risk Factor): >= 60<br>Borderline: 40 - 59<br>High Risk: < 40 |

Dr S SIVAKUMAR Ph.D
Consultant Microbiologist
**VERIFIED BY**

Dr Gurupriya J
Pathologist
Reg No: 13-48036

**APPROVED BY**

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| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| LDL Cholesterol (Serum/*Calculated*) | 84.7 | mg/dL | Optimal: < 100 Above Optimal: 100 - 129 Borderline: 130 - 159 High: 160 - 189 Very High: >=190 |
| VLDL Cholesterol (Serum/*Calculated*) | **35.6** | mg/dL | < 30 |
| Non HDL Cholesterol (Serum/*Calculated*) | 120.3 | mg/dL | Optimal: < 130 Above Optimal: 130 - 159 Borderline High: 160 - 189 High: 190 - 219 Very High: >=220 |

**INTERPRETATION:** 1.Non-HDL Cholesterol is now proven to be a better cardiovascular risk marker than LDL Cholesterol.
2.It is the sum of all potentially atherogenic proteins including LDL, IDL, VLDL and chylomicrons and it is the "new bad cholesterol" and is a co-primary target for cholesterol lowering therapy.

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| Total Cholesterol/HDL Cholesterol Ratio (Serum/*Calculated*) | 4.2 | | Optimal: < 3.3 Low Risk: 3.4 - 4.4 Average Risk: 4.5 - 7.1 Moderate Risk: 7.2 - 11.0 High Risk: > 11.0 |
| Triglyceride/HDL Cholesterol Ratio (TG/HDL) (Serum/*Calculated*) | 4.7 | | Optimal: < 2.5 Mild to moderate risk: 2.5 - 5.0 High Risk: > 5.0 |
| LDL/HDL Cholesterol Ratio (Serum/*Calculated*) | 2.2 | | Optimal: 0.5 - 3.0 Borderline: 3.1 - 6.0 High Risk: > 6.0 |

### *Glycosylated Haemoglobin (HbA1c)*

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| HbA1C (Whole Blood/*HPLC*) | **7.2** | % | Normal: 4.5 - 5.6 Prediabetes: 5.7 - 6.4 Diabetic: >= 6.5 |

**INTERPRETATION:** If Diabetes - Good control : 6.1 - 7.0 % , Fair control : 7.1 - 8.0 % , Poor control >= 8.1 %

Dr S SIVAKUMAR Ph.D
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**medall**
DIAGNOSTICS

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| Estimated Average Glucose<br>(Whole Blood) | 159.94 | mg/dL | |

**INTERPRETATION: Comments**

HbA1c provides an index of Average Blood Glucose levels over the past 8 - 12 weeks and is a much better indicator of long term glycemic control as compared to blood and urinary glucose determinations.

Conditions that prolong RBC life span like Iron deficiency anemia, Vitamin B12 & Folate deficiency, hypertrigglyceridemia,hyperbilirubinemia,Drugs, Alcohol, Lead Poisoning, Asplenia can give falsely elevated HbA1C values.

Conditions that shorten RBC survival like acute or chronic blood loss, hemolytic anemia, Hemoglobinopathies, Splenomegaly,Vitamin E ingestion, Pregnancy, End stage Renal disease can cause falsely low HbA1c.

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| Prostate specific antigen - Total(PSA)<br>(Serum/*Manometric method*) | 0.69 | ng/mL | Normal: 0.0 - 4.0<br>Inflammatory & Non Malignant conditions of Prostate & genitourinary system: 4.01 - 10.0<br>Suspicious of Malignant disease of Prostate: > 10.0 |

**INTERPRETATION:** REMARK : PSA alone should not be used as an absolute indicator of malignancy.

### *THYROID PROFILE / TFT*

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| T3 (Triiodothyronine) - Total<br>(Serum/*Chemiluminescent Immunometric Assay (CLIA)*) | 0.86 | ng/ml | 0.4 - 1.81 |

**INTERPRETATION:**

**Comment :**

Total T3 variation can be seen in other condition like pregnancy, drugs, nephrosis etc. In such cases, Free T3 is recommended as it is Metabolically active.

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| T4 (Tyroxine) - Total<br>(Serum/*Chemiluminescent Immunometric Assay (CLIA)*) | 6.08 | µg/dl | 4.2 - 12.0 |

**INTERPRETATION:**

**Comment :**

Total T4 variation can be seen in other condition like pregnancy, drugs, nephrosis etc. In such cases, Free T4 is recommended as it is Metabolically active.

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| TSH (Thyroid Stimulating Hormone)<br>(Serum/*Chemiluminescent Immunometric Assay (CLIA)*) | 4.90 | µIU/mL | 0.35 - 5.50 |

Dr S SIVAKUMAR Ph.D
Consultant Microbiologist
**VERIFIED BY**

Dr Gurupriya J
Pathologist
Reg No: 13-48036

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| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|

**INTERPRETATION:**
Reference range for cord blood - upto 20
1 st trimester: 0.1-2.5
2 nd trimester 0.2-3.0
3 rd trimester : 0.3-3.0
(Indian Thyroid Society Guidelines)
**Comment :**
1.TSH reference range during pregnancy depends on Iodine intake, TPO status, Serum HCG concentration, race, Ethnicity and BMI.
2.TSH Levels are subject to circadian variation, reaching peak levels between 2-4am and at a minimum between 6-10PM.The variation can be of the order of 50%,hence time of the day has influence on the measured serum TSH concentrations.
3.Values&amplt;0.03 µIU/mL need to be clinically correlated due to presence of rare TSH variant in some individuals.

### *Urine Analysis - Routine*

| Investigation | Observed Value | Unit | Biological Reference Interval |
|---|---|---|---|
| COLOUR (Urine) | Pale yellow | | Yellow to Amber |
| APPEARANCE (Urine) | Clear | | Clear |
| Protein (Urine/*Protein error of indicator*) | Negative | | Negative |
| Glucose (Urine/*GOD - POD)* | Negative | | Negative |
| Pus Cells (Urine/*Automated ⁻Flow cytometry* ) | **Occasional** | /hpf | NIL |
| Epithelial Cells (Urine/*Automated ⁻Flow cytometry* ) | **Occasional** | /hpf | NIL |
| RBCs (Urine/*Automated ⁻Flow cytometry* ) | NIL | /hpf | NIL |
| Casts (Urine/*Automated ⁻Flow cytometry* ) | NIL | /hpf | NIL |
| Crystals (Urine/*Automated ⁻Flow cytometry* ) | NIL | /hpf | NIL |
| Others (Urine) | NIL | | |

**INTERPRETATION:**Note: Done with Automated Urine Analyser & Automated urine sedimentation analyser. All abnormal reports are reviewed and confirmed microscopically.

Dr S SIVAKUMAR Ph.D
Consultant Microbiologist
**VERIFIED BY**

Dr Gurupriya J
Pathologist
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**APPROVED BY**

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**Ref. Dr** : **MediWheel**

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-- End of Report --

| Name | Mr.SHANMUGAVELU RAMAN | ID | MED111517890 |
|---|---|---|---|
| Age & Gender | 59/MALE | Visit Date | 25/02/2023 |
| Ref Doctor Name | MediWheel | | |

# DEPARTMENT OF CARDIOLOGY

## TRANSTHORACIC RESTING ECHO CARDIOGRAPHY REPORT

**ECHO INDICATION: Assessment**          **ACOUSTIC WINDOW : GOOD**

**M MODE & 2-D PARAMETERS:**

| LV STUDY | |
|---|---|
| IVS(d)    cm | 1.1 |
| IVS(s)    cm | 1.0 |
| LPW(d)    cm | 1.0 |
| LPW(s)    cm | 1.3 |
| LVID(d)    cm | 4.6 |
| LVID(s)    cm | 2.7 |
| EDV ml | 98 |
| ESV ml | 20 |
| SV   ml | 78 |
| EF   % | 79 |
| FS   % | 41 |
| Parameters | Patient Value |
| LA        cm | 2.9 |
| AO        cm | 2.3 |

**DOPPLER PARAMETERS**

| Valves | Velocity max(m/sec mm/Hg) |
|---|---|
| AV | 1.2 |
| PV | 0.9 |
| MV (E) | 1.0 |
| ( (A) | 0.7 |
| TV | 1.0 |

| Name | Mr.SHANMUGAVELU RAMAN | ID | MED111517890 |
|---|---|---|---|
| Age & Gender | 59/MALE | Visit Date | 25/02/2023 |
| Ref Doctor Name | MediWheel | | |

## FINDINGS:

❖ **Normal left ventricle systolic function (LVEF 79 %).**

❖ **No regional wall motion abnormality.**

❖ **No diastolic dysfunction.**

❖ **Normal chambers dimension.**

❖ **Structurally valves are normal.**

❖ **Normal pericardium / Intact septae.**

❖ **No clot/aneurysm.**

❖ **IVC~1.0 cm /collapsing.**

## *IMPRESSION:*

▶ *NORMAL LV SYSTOLIC FUNCTION.*
▶ *NO REGIONAL WALL MOTION ABNORMALITY.*

**M.JOTHEESWARI.**
**ECHO TECHNOLOGIST**