

Name : Mr. P V Rajendra Kumar
PID No. : MED111990334
SID No. : 423074526
Age / Sex : 62 Year(s) / Male
Type : OP
Ref. Dr : MediWheel

Register On : 09/12/2023 10:00 AM
Collection On : 09/12/2023 12:08 PM
Report On : 09/12/2023 9:23 PM
Printed On : 11/12/2023 10:24 AM

<u>Investigation</u>	<u>Observed Value</u>	<u>Unit</u>	<u>Biological Reference Interval</u>
<u>Complete Blood Count With - ESR</u>			
Haemoglobin (EDTA Blood/Spectrophotometry)	14.7	g/dL	13.5 - 18.0
Packed Cell Volume(PCV)/Haematocrit (EDTA Blood)	43.2	%	42 - 52
RBC Count (EDTA Blood)	5.08	mill/cu.mm	4.7 - 6.0
Mean Corpuscular Volume(MCV) (EDTA Blood)	85.0	fL	78 - 100
Mean Corpuscular Haemoglobin(MCH) (EDTA Blood)	28.9	pg	27 - 32
Mean Corpuscular Haemoglobin concentration(MCHC) (EDTA Blood)	34.0	g/dL	32 - 36
RDW-CV (EDTA Blood)	13.3	%	11.5 - 16.0
RDW-SD (EDTA Blood)	39.8	fL	39 - 46
Total Leukocyte Count (TC) (EDTA Blood)	5300	cells/cu.mm	4000 - 11000
Neutrophils (EDTA Blood)	45.3	%	40 - 75
Lymphocytes (EDTA Blood)	40.9	%	20 - 45
Eosinophils (EDTA Blood)	6.0	%	01 - 06
Monocytes (EDTA Blood)	6.9	%	01 - 10
Basophils (Blood)	0.9	%	00 - 02

INTERPRETATION: Tests done on Automated Five Part cell counter. All abnormal results are reviewed and confirmed microscopically.



APPROVED BY

Name : Mr. P V Rajendra Kumar
PID No. : MED111990334 **Register On** : 09/12/2023 10:00 AM
SID No. : 423074526 **Collection On** : 09/12/2023 12:08 PM
Age / Sex : 62 Year(s) / Male **Report On** : 09/12/2023 9:23 PM
Type : OP **Printed On** : 11/12/2023 10:24 AM
Ref. Dr : MediWheel

<u>Investigation</u>	<u>Observed Value</u>	<u>Unit</u>	<u>Biological Reference Interval</u>
Absolute Neutrophil count (EDTA Blood)	2.4	10 ³ / μl	1.5 - 6.6
Absolute Lymphocyte Count (EDTA Blood)	2.2	10 ³ / μl	1.5 - 3.5
Absolute Eosinophil Count (AEC) (EDTA Blood)	0.3	10 ³ / μl	0.04 - 0.44
Absolute Monocyte Count (EDTA Blood)	0.4	10 ³ / μl	< 1.0
Absolute Basophil count (EDTA Blood)	0.0	10 ³ / μl	< 0.2
Platelet Count (EDTA Blood)	231	10 ³ / μl	150 - 450
MPV (EDTA Blood)	7.6	fL	7.9 - 13.7
PCT (EDTA Blood/Automated Blood cell Counter)	0.177	%	0.18 - 0.28
ESR (Erythrocyte Sedimentation Rate) (Citratd Blood)	2	mm/hr	< 20
Glucose Fasting (FBS) (Plasma - F/GOD-PAP)	76.95	mg/dL	Normal: < 100 Pre Diabetic: 100 - 125 Diabetic: >= 126

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) (Urine - F/GOD - POD)	Negative	Negative
Glucose Postprandial (PPBS) (Plasma - PP/GOD-PAP)	81.11 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.

Blood Urea Nitrogen (BUN) (Serum/Urease UV / derived)	10.4 mg/dL	7.0 - 21
--	------------	----------



APPROVED BY

Name : Mr. P V Rajendra Kumar
PID No. : MED111990334 **Register On** : 09/12/2023 10:00 AM
SID No. : 423074526 **Collection On** : 09/12/2023 12:08 PM
Age / Sex : 62 Year(s) / Male **Report On** : 09/12/2023 9:23 PM
Type : OP **Printed On** : 11/12/2023 10:24 AM
Ref. Dr : MediWheel

<u>Investigation</u>	<u>Observed Value</u>	<u>Unit</u>	<u>Biological Reference Interval</u>
Creatinine (Serum/Modified Jaffe)	1.35	mg/dL	0.8 - 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 (Serum/Enzymatic)	5.68	mg/dL	3.5 - 7.2
--------------------------------	------	-------	-----------

Liver Function Test

Bilirubin(Total) (Serum/DCA with ATCS)	0.73	mg/dL	0.1 - 1.2
Bilirubin(Direct) (Serum/Diazotized Sulfanilic Acid)	0.26	mg/dL	0.0 - 0.3
Bilirubin(Indirect) (Serum/Derived)	0.47	mg/dL	0.1 - 1.0
SGOT/AST (Aspartate Aminotransferase) (Serum/Modified IFCC)	24.40	U/L	5 - 40
SGPT/ALT (Alanine Aminotransferase) (Serum/Modified IFCC)	21.90	U/L	5 - 41
GGT(Gamma Glutamyl Transpeptidase) (Serum/IFCC / Kinetic)	16.44	U/L	< 55
Alkaline Phosphatase (SAP) (Serum/Modified IFCC)	72.5	U/L	56 - 119
Total Protein (Serum/Biuret)	6.69	gm/dl	6.0 - 8.0
Albumin (Serum/Bromocresol green)	4.74	gm/dl	3.5 - 5.2
Globulin (Serum/Derived)	1.95	gm/dL	2.3 - 3.6
A : G RATIO (Serum/Derived)	2.43		1.1 - 2.2



APPROVED BY

Name : Mr. P V Rajendra Kumar
PID No. : MED111990334 **Register On** : 09/12/2023 10:00 AM
SID No. : 423074526 **Collection On** : 09/12/2023 12:08 PM
Age / Sex : 62 Year(s) / Male **Report On** : 09/12/2023 9:23 PM
Type : OP **Printed On** : 11/12/2023 10:24 AM
Ref. Dr : MediWheel

<u>Investigation</u>	<u>Observed Value</u>	<u>Unit</u>	<u>Biological Reference Interval</u>
<u>Lipid Profile</u>			
Cholesterol Total (Serum/CHOD-PAP with ATCS)	234.90	mg/dL	Optimal: < 200 Borderline: 200 - 239 High Risk: >= 240
Triglycerides (Serum/GPO-PAP with ATCS)	113.08	mg/dL	Optimal: < 150 Borderline: 150 - 199 High: 200 - 499 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.

HDL Cholesterol (Serum/Immunoinhibition)	55.74	mg/dL	Optimal(Negative Risk Factor): >= 60 Borderline: 40 - 59 High Risk: < 40
LDL Cholesterol (Serum/Calculated)	156.6	mg/dL	Optimal: < 100 Above Optimal: 100 - 129 Borderline: 130 - 159 High: 160 - 189 Very High: >= 190
VLDL Cholesterol (Serum/Calculated)	22.6	mg/dL	< 30
Non HDL Cholesterol (Serum/Calculated)	179.2	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.



Name : Mr. P V Rajendra Kumar
PID No. : MED111990334 **Register On** : 09/12/2023 10:00 AM
SID No. : 423074526 **Collection On** : 09/12/2023 12:08 PM
Age / Sex : 62 Year(s) / Male **Report On** : 09/12/2023 9:23 PM
Type : OP **Printed On** : 11/12/2023 10:24 AM
Ref. Dr : MediWheel

<u>Investigation</u>	<u>Observed Value</u>	<u>Unit</u>	<u>Biological Reference Interval</u>
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)	2		Optimal: < 2.5 Mild to moderate risk: 2.5 - 5.0 High Risk: > 5.0
LDL/HDL Cholesterol Ratio (Serum/Calculated)	2.8		Optimal: 0.5 - 3.0 Borderline: 3.1 - 6.0 High Risk: > 6.0

Glycosylated Haemoglobin (HbA1c)

HbA1C (Whole Blood/HPLC)	5.4	%	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 %

Estimated Average Glucose (Whole Blood)	108.28	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 glyceimic control as compared to blood and urinary glucose determinations.

Conditions that prolong RBC life span like Iron deficiency anemia, Vitamin B12 & Folate deficiency, hypertriglyceridemia, 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.

Prostate specific antigen - Total(PSA) (Serum/Manometric method)	1.05	ng/ml	Normal: 0.0 - 4.0 Inflammatory & Non Malignant conditions of Prostate & genitourinary system: 4.01 - 10.0 Suspicious of Malignant disease of Prostate: > 10.0
---	------	-------	---



APPROVED BY

Name : Mr. P V Rajendra Kumar
PID No. : MED111990334 **Register On** : 09/12/2023 10:00 AM
SID No. : 423074526 **Collection On** : 09/12/2023 12:08 PM
Age / Sex : 62 Year(s) / Male **Report On** : 09/12/2023 9:23 PM
Type : OP **Printed On** : 11/12/2023 10:24 AM
Ref. Dr : MediWheel

<u>Investigation</u>	<u>Observed Value</u>	<u>Unit</u>	<u>Biological Reference Interval</u>
----------------------	-----------------------	-------------	--------------------------------------

INTERPRETATION: Analytical sensitivity: 0.008 - 100 ng/mL

PSA is a tumor marker for screening of prostate cancer. Increased levels of PSA are associated with prostate cancer and benign conditions like bacterial infection, inflammation of prostate gland and benign hypertrophy of prostate/ benign prostatic hyperplasia (BPH).

Transient elevation of PSA levels are seen following digital rectal examination, rigorous physical activity like bicycle riding, ejaculation within 24 hours.

PSA levels tend to increase in all men as they age.

Clinical Utility of PSA:

• In the early detection of Prostate cancer.

• As an aid in discriminating between Prostate cancer and Benign Prostatic disease.

• To detect cancer recurrence or disease progression.

THYROID PROFILE / TFT

T3 (Triiodothyronine) - Total (Serum/ECLIA)	1.21	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.

T4 (Tyroxine) - Total (Serum/ECLIA)	7.61	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.

TSH (Thyroid Stimulating Hormone) (Serum/ECLIA)	1.21	µIU/mL	0.35 - 5.50
--	------	--------	-------------

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$\leq 0.03 \mu\text{IU/mL}$ need to be clinically correlated due to presence of rare TSH variant in some individuals.

URINE ROUTINE



Name : Mr. P V Rajendra Kumar
PID No. : MED111990334 **Register On** : 09/12/2023 10:00 AM
SID No. : 423074526 **Collection On** : 09/12/2023 12:08 PM
Age / Sex : 62 Year(s) / Male **Report On** : 09/12/2023 9:23 PM
Type : OP **Printed On** : 11/12/2023 10:24 AM
Ref. Dr : MediWheel

<u>Investigation</u>	<u>Observed Value</u>	<u>Unit</u>	<u>Biological Reference Interval</u>
<u>PHYSICAL EXAMINATION (URINE COMPLETE)</u>			
Colour (Urine)	Pale yellow		Yellow to Amber
Appearance (Urine)	Clear		Clear
Volume(CLU) (Urine)	20		
<u>CHEMICAL EXAMINATION (URINE COMPLETE)</u>			
pH (Urine)	6.5		4.5 - 8.0
Specific Gravity (Urine)	1.009		1.002 - 1.035
Ketone (Urine)	Negative		Negative
Urobilinogen (Urine)	Normal		Normal
Blood (Urine)	Negative		Negative
Nitrite (Urine)	Negative		Negative
Bilirubin (Urine)	Negative		Negative
Protein (Urine)	Negative		Negative
Glucose (Urine/GOD - POD)	Negative		Negative
Leukocytes(CP) (Urine)	Negative		



MC-5606



APPROVED BY

The results pertain to sample tested.

Page 7 of 9

Lab Address: BANGALORE REFERENCE LABORATORY-CLUMAX DIAGNOSTIC AND RESEARCH CENTRE PVT LTD. (A UNIT OF MEDALL HEALTHCARE PVT. LTD.). Old No66 & New No 1. 2nd Main Road. Bashvam Circle

Name : Mr. P V Rajendra Kumar
PID No. : MED111990334 **Register On** : 09/12/2023 10:00 AM
SID No. : 423074526 **Collection On** : 09/12/2023 12:08 PM
Age / Sex : 62 Year(s) / Male **Report On** : 09/12/2023 9:23 PM
Type : OP **Printed On** : 11/12/2023 10:24 AM
Ref. Dr : MediWheel

<u>Investigation</u>	<u>Observed Value</u>	<u>Unit</u>	<u>Biological Reference Interval</u>
----------------------	-----------------------	-------------	--------------------------------------

MICROSCOPIC EXAMINATION
(URINE COMPLETE)

Pus Cells (Urine)	0-1	/hpf	NIL
Epithelial Cells (Urine)	0-1	/hpf	NIL
RBCs (Urine)	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.

Casts (Urine)	NIL	/hpf	NIL
Crystals (Urine)	NIL	/hpf	NIL



APPROVED BY

Name : Mr. P V Rajendra Kumar
PID No. : MED111990334
SID No. : 423074526
Age / Sex : 62 Year(s) / Male
Type : OP
Ref. Dr : MediWheel

Register On : 09/12/2023 10:00 AM
Collection On : 09/12/2023 12:08 PM
Report On : 09/12/2023 9:23 PM
Printed On : 11/12/2023 10:24 AM

<u>Investigation</u>	<u>Observed Value</u>	<u>Unit</u>	<u>Biological Reference Interval</u>
BUN / Creatinine Ratio	7.7		6.0 - 22.0



APPROVED BY

-- End of Report --

Name	MR.P V RAJENDRA KUMAR	ID	MED111990334
Age & Gender	62Y/MALE	Visit Date	09 Dec 2023
Ref Doctor Name	MediWheel		

2 D ECHOCARDIOGRAPHIC STUDY

M mode measurement:

AORTA	:	3.2cms
LEFT ATRIUM	:	3.7cms
AVS	:	----
LEFT VENTRICLE (DIASTOLE)	:	4.3cms
(SYSTOLE)	:	2.7cms
VENTRICULAR SEPTUM (DIASTOLE)	:	0.9cms
(SYSTOLE)	:	1.3cms
POSTERIOR WALL (DIASTOLE)	:	1.2cms
(SYSTOLE)	:	1.5cms
EDV	:	81ml
ESV	:	28ml
FRACTIONAL SHORTENING	:	36%
EJECTION FRACTION	:	65%
EPSS	:	---
RVID	:	1.8cms

DOPPLER MEASUREMENTS:

MITRAL VALVE	:	E' 1.02 m/s	A' 0.93 m/s	NO MR
AORTIC VALVE	:	1.30 m/s		NO AR
TRICUSPID VALVE	:	E' - m/s	A' - m/s	NO TR
PULMONARY VALVE	:	0.64 m/s		NO PR

Name	MR.P V RAJENDRA KUMAR	ID	MED111990334
Age & Gender	62Y/MALE	Visit Date	09 Dec 2023
Ref Doctor Name	MediWheel		

2D ECHOCARDIOGRAPHY FINDINGS

Left ventricle : Normal size, Normal systolic function.
No regional wall motion abnormalities.

Left Atrium : Normal.

Right Ventricle : Normal.

Right Atrium : Normal.

Mitral valve : Normal, No mitral valve prolapsed.

Aortic valve : Normal, Trileaflet.

Tricuspid valve : Normal.

Pulmonary valve : Normal.

IAS : Intact.

IVS : Intact.

Pericardium : No pericardial effusion.

IMPRESSION:

- **NORMAL SIZED CARDIAC CHAMBERS.**
- **NORMAL LV SYSTOLIC FUNCTION. EF: 65%.**
- **NO REGIONAL WALL MOTION ABNORMALITIES.**
- **NORMAL VALVES.**
- **NO CLOTS / PERICARDIAL EFFUSION / VEGETATION.**

DR. K.S. SUBRAMANI. MBBS, MD, DM (CARDIOLOGY) FESC, FICC
SENIOR CONSULTANT INTERVENTIONAL CARDIOLOGIST
SRI JAYADEVA INSTITUTE OF CARDIOLOGY, BANGALORE
Kss/vp

Note:

- * **Report to be interpreted by qualified medical professional.**
- * **To be correlated with other clinical findings.**
- * **Parameters may be subjected to inter and intra observer variations.**
- * **Any discrepancy in reports due to typing errors should be corrected as soon as possible.**

Name	MR.P V RAJENDRA KUMAR	ID	MED111990334
Age & Gender	62Y/MALE	Visit Date	09 Dec 2023
Ref Doctor Name	MediWheel		

Name	MR.P V RAJENDRA KUMAR	ID	MED111990334
Age & Gender	62Y/MALE	Visit Date	09 Dec 2023
Ref Doctor Name	MediWheel		

ABDOMINO-PELVIC ULTRASONOGRAPHY

LIVER is normal in shape, size and has uniform echopattern. No evidence of focal lesion or intrahepatic biliary ductal dilatation. Hepatic and portal vein radicals are normal.

GALL BLADDER shows normal shape and has clear contents. Gall bladder wall is of normal thickness. CBD is of normal calibre.

PANCREAS has normal shape, size and uniform echopattern. No evidence of ductal dilatation or calcification.

SPLEEN shows normal shape, size and echopattern. No demonstrable Para -aortic lymphadenopathy.

KIDNEYS move well with respiration and have normal shape, size and echopattern. Cortico- medullary differentiations are well madeout. No evidence of calculus or hydronephrosis.

The kidney measures as follows:

	Bipolar length (cms)	Parenchymal thickness (cms)
Right Kidney	9.6	1.2
Left Kidney	9.8	1.1

URINARY BLADDER shows normal shape and wall thickness. It has clear contents. No evidence of diverticula.

Prevoid:350cc

Postvoid residue: 8cc

PROSTATE shows normal shape, size and echopattern. It measures 3.7 x 3.1 x 3.2cms (Vol:19cc).

No evidence of ascites / pleural effusion.

IMPRESSION:

➤ **NO SIGNIFICANT ABNORMALITY DETECTED.**

DR. APARNA
CONSULTANT RADIOLOGIST

A/da

Name	MR.P V RAJENDRA KUMAR	ID	MED111990334
Age & Gender	62Y/MALE	Visit Date	09 Dec 2023
Ref Doctor Name	MediWheel		

Name	Mr. P V Rajendra Kumar	Customer ID	MED111990334
Age & Gender	62Y/M	Visit Date	Dec 9 2023 9:59AM
Ref Doctor	MediWheel		

X - RAY CHEST PA VIEW

Bilateral lung fields appear normal.

Cardiac size is within normal limits.

Bilateral hilar regions appear normal.

Bilateral domes of diaphragm and costophrenic angles are normal.

Visualised bones and soft tissues appear normal.

Impression: Essentially normal study.



DR. APARNA

CONSULTANT RADIOLOGIST

Mahesh

Mob:8618385220

9901569756



ಶ್ರೀ ಪಾರ್ವತಿ ಆಪ್ಟಿಕ್ಸ್

SRI PARVATHI OPTICS

Multi Branded Opticals Store

Computerized Eye Testing & Spectacles Clinic

333.8th Main 5th Cross Near Cambridge & Miranda School HAL 3rd Stage
Behind Vishveshwariah Park New Thippasandra, Bangalore - 560075,
Email: parvathiopticals@gmail.com

SPECTACLE PRESCRIPTION

Name: Ravendra Loukian. P.V. No. **4173**

Mobil No:

Date: 9/12/2023

Age / Gender 62 / M.

Ref. No. 111990334

	RIGHT EYE				LEFT EYE			
	SPH	CYL	AXIS	VISION	SPH	CYL	AXIS	VISION
DISTANCE	<u>+2.00</u>			<u>6/6</u>	<u>+1.25</u>			
NEAR	<u>Add +2.50 @ 0°</u>							

PD 65 HAE

Advice to use glasses for:

DISTANCE FAR & NEAR READING COMPUTER PURPOSE

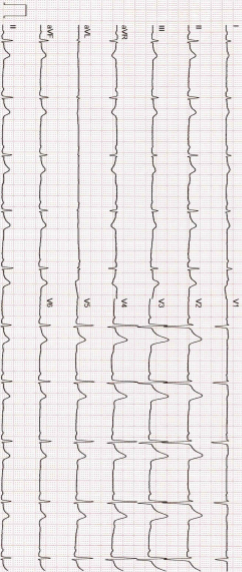
We Care Your Eyes

SRI PARVATHI OPTICS
NEW THIPPASANDRA

Male

62 Years

QRS	76 ms
QT / QTcBaz	406 / 395 ms
PR	148 ms
P	92 ms
RR / PP	1052 / 1052 ms
P / QRS / T	37 / 62 / 68 degrees



Amma Pretycardisi

DR. SUBRAMANI, K.S
MD, DM (Cardiology)
Consultant Cardiologist
KMC Reg. No. : 46504
MEDICAL DIAGNOSTICS