

# COMPLETE BLOOD COUNT (CBC with E.S.R).

|               |                     |               |                     |          |                 |
|---------------|---------------------|---------------|---------------------|----------|-----------------|
| Reference No. | : 191048649         | Reg. Date     | : 03-Oct-2019 13:16 | Age/Sex  | : 50 Years MALE |
| Patient       | : MR. ANISH CHANANA | Print Date    | : 03-Oct-2019       | Delivery | :               |
| Ref. Doctor   | : SELF              | Hospital / NH | : NA                |          |                 |

| <u>Investigation</u>  | <u>Result</u>  | <u>Biological Reference Interval</u> | <u>Units</u> |
|---|--|--------------------------------------|--------------|
| HEMOGLOBIN, Blood(SLS Hemoglobin)   | 16.6   | 13.00 - 17.00                        | g/dl         |
| PACKED CELL VOLUME, Blood(Impedence)  | 49.8   | 40 - 50                              | %            |
| TLC, Blood (Flow cytometry)   | 7300.00  | 4000 - 11000                         | /cumm        |
| <b><u>D.L.C., Blood (Flow Cytometry)</u></b>  |  |                                      |              |
| POLYMORPHS  | 50.0   | 44.00 - 68.00                        | %            |
| LYMPHOCYTES   | 41.00  | 25.00 - 44.00                        | %            |
| EOSINOPHILS   | 2.0  | 0.00 - 4.00                          | %            |
| MONOCYTES   | 7.00   | 0.00 - 7.00                          | %            |
| ABSOLUTE NEUTROPHIL COUNT(Blood, Calculated).   | 3650.00  | 2000 - 7000                          | /Cu mm       |
| ABSOLUTE EOSINOPHIL COUNT BLOOD, (Calculated)   | 146.00   | 20 - 500                             | /Cu mm       |
| PLATELET COUNT, Blood (Impedence)   | 277.00   | 150 - 410                            | 1000/Cumm    |
| E.S.R, Blood(Capillary Photometry)  | 4.00   | 0.00 - 15.00                         | 1st hour     |
| R B C COUNT, Blood (Impedence)  | 5.48   | 4.5 - 5.5                            | 10^12/L      |
| MCV, Blood(Calculated)  | 90.88  | 83 - 101                             | fl           |
| MCH, Blood(Calculated)  | 30.29  | 27.00 - 32.60                        | Pg           |
| MCHC, Blood(Calculated)   | 33.33  | 31.50 - 34.50                        | gm/dl        |
| RDW, Blood (Calculated)   | 13.0   | 11.6 - 14.0                          | %            |
| COMMENTS ON PERIPHERAL SMEAR :<br>(Microscopy, Leishman stain)                                    | The red blood cells are normocytic and normochromic. The white cells are normal. The platelets are adequate. |                                      |              |
| *Test performed by SYSMEX XN-550.   |  |                                      |              |
| Absolute Neutrophil Count (ANC) <1000 - Markedly increased susceptibility of infectious diseases. |  |                                      |              |
| - Absolute Neutrophil Count (ANC) <500 control of endogenous microbial flora impaired.            |  |                                      |              |
| - Absolute Neutrophil Count (ANC) <200 absent inflammatory processes.                             |  |                                      |              |
| Comments:   |  |                                      |              |

\*\*\* END OF REPORT \*\*\*



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## REPORT

|                        |                   |                        |                   |                   |               |
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| <b>Ref. Doctor</b> :   | SELF              | <b>Hospital / NH</b> : | NA                |                   |               |

| <u>Investigation</u>                | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|-------------------------------------|---------------|--------------------------------------|--------------|
| FASTING GLUCOSE, Plasma(Hexokinase) | 92.4          | 60 - 100                             | mg/dl        |

Comments:

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## HbA1c

|                        |                   |                        |                   |                   |               |
|------------------------|-------------------|------------------------|-------------------|-------------------|---------------|
| <b>Reference No.</b> : | 191048649         | <b>Reg. Date</b> :     | 03-Oct-2019 13:16 | <b>Age/Sex</b> :  | 50 Years MALE |
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| <b>Ref. Doctor</b> :   | SELF              | <b>Hospital / NH</b> : | NA                |                   |               |

| <u>Investigation</u>            | <u>Result</u> | <u>Units</u> |
|---------------------------------|---------------|--------------|
| GLYCOSYLATED HEMOGLOBIN (HbA1c) | 5.5           | %            |
| Immunoturbidimetry              |               |              |

### REFERENCE RANGE:

4.00 - 5.60 % Normal  
5.70 - 6.40 % Prediabetes (The values should be co-related with Glucose levels)  
6.10 - 7.00 % HbA1C indicates very good control in diabetes  
7.10 - 8.00 % HbA1C indicates adequate control in diabetes  
8.10 - 9.00 % HbA1C indicates suboptimal control in diabetes  
>9.00% HbA1C indicates poor control in diabetes

HbA1c (%) Average Glucose mg/dl

|    |     |
|----|-----|
| 5  | 97  |
| 6  | 126 |
| 7  | 154 |
| 8  | 183 |
| 9  | 212 |
| 10 | 240 |
| 11 | 269 |
| 12 | 298 |

### Note :

An estimated average glucose (eAG) can be calculated from the HbA1c values. The A1c test is also used to monitor the glucose control of diabetics over time. This helps to minimize the complications caused by chronically elevated glucose levels, such as progressive damage to kidneys, eyes, cardiovascular system, and nerves.

The A1c test, however, should not be used for screening for cystic fibrosis-related diabetes, people who have had recent severe bleeding or blood transfusions, those with chronic kidney or liver disease, or people with blood disorders such as iron-deficiency anemia, vitamin B12 deficiency anemia, and some Hemoglobin variants (e.g., patients with sickle cell disease or Thalassemia).

### Comments:

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| <u>Investigation</u>              | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|-----------------------------------|---------------|--------------------------------------|--------------|
| CRP-HS, Serum(Immunoturbidimetry) | 0.76          | 0.00 - 1.00                          | mg/L         |

CVD Risk Assessment

Low : 0.00 - 1.00 mg/L  
Average : 1.00 - 3.00 mg/L  
High : More Than 3.00 mg/L

Reference Range For :-

Neonates 0.10 - 4.10 mg/L  
Children 0.10 - 2.80 mg/L

Comments:

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| <b>Ref. Doctor</b> :   | SELF              | <b>Hospital / NH</b> : | NA                |                   |               |

| <u>Investigation</u>           | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|--------------------------------|---------------|--------------------------------------|--------------|
| CRP, Serum(Immunoturbidimetry) | 0.08          | <0.50                                | mg/dl        |

### INTERPRETATION :-

ADULTS <0.50 mg/dl  
NEWBORN UP TO 3 WEEKS <0.41 mg/dl  
INFANTS AND CHILDREN <0.28 mg/dl

Comments:

\*\*\* END OF REPORT \*\*\*



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## LIPID PROFILE

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Patient : MR. ANISH CHANANA Print Date : 03-Oct-2019 Delivery :  
Ref. Doctor : SELF Hospital / NH : NA

| Investigation                          | Result        | Biological Reference Interval | Units |
|--|---------------|-------------------------------|-------|
| CHOLESTROL, SERUM (Enz. Colorimetry)   | 189.2         | 80.00 - 200.00                | mg/dl |
| HDL CHOLESTEROL (Enz.Colorimetry)      | 48.6          | 30.00 - 60.00                 | mg/dl |
| TRIGLYCERIDES, SERUM (Enz.Colorimetry) | <b>234.72</b> | 40.00 - 150.00                | mg/dl |
| VLDL (Calculated)                      | 24.90         | 24.00 - 45.00                 |       |
| LDL CHOLESTEROL (Enz.Colorimetry)      | <b>115.70</b> | 30 - 100                      | mg/dl |
| LDL / HDL RATIO (Calculated)           | 2.38          | 0.00 - 3.00                   |       |
| CHOLESTEROL / HDL RATIO(Calculated)    | 3.89          | 0.00 - 4.00                   |       |

### INTERPRETATION :-

Desirable : Less than 200 mg/dl  
Borderline High Risk : 200 to 239 mg/dl  
High Risk : 240 mg/dl and over, on repeated values

Optimal Level for Cardiac Patients : Less than 200 mg/dl

### TRIGLYCERIDES REFERENCE RANGE

> Normal - Less than 150 mg/dL,  
> Borderline high - 150 to 199 mg/dL  
> High - 200 to 499 mg/dL  
> Very high - 500 mg/dL or above

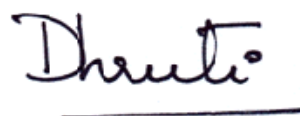
HDL-C : High HDL has generally been found to be protective, decreasing the risk of coronary Artery disease (CAD) in most people. However, some recent studies have shown that in some people with high HDL, the HDL is not protective and may, in fact result in higher risk for CAD than in people with normal HDL levels. In one study it was shown that people with CAD and high HDL had underlying genetic anomalies in enzymes important in lipid turnover. Another study showed that high levels of abnormally large HDL particles were associated with increased risk of CAD. Factors that elevate HDL concentrations include chronic alcoholism, treatment with oral estrogen replacement therapy, extensive aerobic exercise, and treatment with niacin, statins, or fibrates. Smoking reduces levels of HDL cholesterol, while quitting smoking leads to a rise in the plasma HDL level.

LDL Reference Range : Levels in terms of risk for coronary heart disease :

Adult levels:  
Optimal <100 mg/dL  
Near Optimal/ above optimal 100 -129 mg/dL  
Borderline high 130 - 159 mg/dL  
High 160 - 189 mg/dL  
Very High >=190 mg/dL

Comments:

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| Patient :       | MR. ANISH CHANANA | Print Date :    | 03-Oct-2019       | Delivery : |               |
| Ref. Doctor :   | SELF              | Hospital / NH : | NA                |            |               |

| <u>Investigation</u>   | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|------------------------|---------------|--------------------------------------|--------------|
| IRON, Serum(Ferrozine) | 133.4         | 33.00 - 193.00                       | ug/dl        |
| UIBC Serum(Ferrozine)  | 230.3         | 125.00 - 345.00                      | ug/dl        |
| TIBC.(Calculated)      | 363.70        | 250.00 - 450.00                      | ug/dl        |
| Comments:              |               |                                      |              |

\*\*\* END OF REPORT \*\*\*

*Dr. Anshu*

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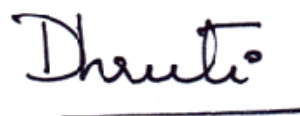
### L.F.T WITH G.G.T.P

|                        |                   |                        |                   |                   |               |
|------------------------|-------------------|------------------------|-------------------|-------------------|---------------|
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| <b>Ref. Doctor</b> :   | SELF              | <b>Hospital / NH</b> : | NA                |                   |               |

| <u>Investigation</u>                     | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|--|---------------|--------------------------------------|--------------|
| BILIRUBIN (TOTAL), Serum(Diazo)          | 0.51          | 0.00 - 1.20                          | mg/dl        |
| BILIRUBIN (DIRECT), Serum(Diazo)         | 0.12          | 0 - 0.30                             | mg/dl        |
| BILIRUBIN (INDIRECT), Serum(Calculated)  | 0.39          | 0.00 - 0.70                          | mg/dl        |
| TOTAL PROTEINS Serum(Biuret)             | 7.2           | 6.40 - 8.30                          | gms/dl       |
| ALBUMIN, Serum(BCG)                      | 4.3           | 3.50 - 5.20                          | gms/dl       |
| GLOBULIN (Calculated)                    | 2.90          | 2.00 - 3.50                          | gms/dl       |
| A:G RATIO (Calculated)                   | 1.48          | 1.00 - 2.00                          |              |
| ALKALINE PHOSPHATASE, Serum(Colorimetry) | 64.8          | 40.00 - 130.00                       | U/L          |
| SGOT, Serum(IFCC)                        | 20.2          | 1.00 - 40.00                         | U/l          |
| SGPT, Serum(IFCC)                        | 18.1          | 2.00 - 41.00                         | U/l          |
| GGTP, Serum(Enz.Colorimetry)             | 30.5          | 8.00 - 61.00                         | U/L          |

Comments:

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| <u>Investigation</u>   | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|------------------------|---------------|--------------------------------------|--------------|
| FERRITIN, Serum,(CLIA) | 67.20         | 22.00 - 322.00                       | ng/ml        |

### Summary and Explanation of the Test:

Ferritin is a compound composed of iron molecules bound to apoferritin, a protein shell. Stored iron represents about 25% of total iron in the body, and most of this iron is stored as ferritin. Ferritin is found in many body cells, but especially those in the liver, spleen, bone marrow, and in reticuloendothelial cells. Ferritin plays a significant role in the absorption, storage, and release of iron. As the storage form of iron, ferritin remains in the body tissues until it is needed for erythropoiesis. When needed, the iron molecules are released from the apoferritin shell and bind to transferrin, the circulating plasma protein that transports iron to the erythropoietic cells. Although dietary iron is poorly absorbed, the body conserves its iron stores carefully, reabsorbing most of the iron released from the breakdown of red blood cells. As a result, the body normally loses only 1 to 2 mg of iron per day, which is generally restored by the iron absorbed in the small intestine from dietary sources. Ferritin is found in serum in low concentrations and is directly proportional to the body's iron stores. Serum ferritin concentration, when analyzed with other factors such as serum iron, iron-binding capacity, and tissue iron stores, is valuable in the diagnosis of iron-deficiency anemias, anemias of chronic infection, and conditions such as thalassemia and hemochromatosis that are associated with iron overload. Measurement of serum ferritin is particularly valuable in distinguishing iron-deficiency anemias caused by low iron stores from those resulting from inadequate iron utilization.

### Limitations:

Serum ferritin values are elevated in the presence of the following conditions and do not reflect actual body iron stores:

- inflammation
- significant tissue destruction
- liver disease
- malignancies such as acute leukemia and Hodgkin's disease
- therapy with iron supplements

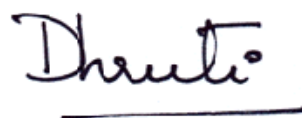
Some estimated ferritin levels in various pathophysiological conditions

| Category              | Range(ng/mL)   | Category       | Range(ng/mL)  |
|-----------------------|----------------|----------------|---------------|
| Iron Deficiency       | 0.68 - 34.5    | Other Anemias  | 13.0 - 1390.8 |
| Iron Overload         | 334.6 - 8573.0 | Renal Dialysis | 31.3 - 1321.2 |
| Chronic Liver Disease | 7.9 - 12,826.0 |                |               |

Heterophilic antibodies in human serum can react with reagent immunoglobulins, interfering with in vitro immunoassays. Patients routinely exposed to animals or to animal serum products can be prone to this interference and anomalous values may be observed.

### Comments:

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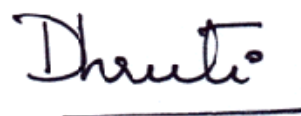
# KIDNEY FUNCTION TEST (KFT)

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Patient : MR. ANISH CHANANA Print Date : 03-Oct-2019 Delivery :  
Ref. Doctor : SELF Hospital / NH : NA

| Investigation                      | Result | Biological Reference Interval | Units |
|------------------------------------|--------|-------------------------------|-------|
| UREA Serum(Urease)                 | 19.08  | 12.00 - 45.00                 | mg/dl |
| UREA NITROGEN(Calculated)          | 8.92   | 6.00 - 20.00                  | mg/dl |
| CREATININE SERUM(Jaffe)            | 0.76   | 0.70 - 1.20                   | mg/dl |
| URIC ACID, Serum(Colorimetry)      | 5.8    | 3.40 - 7.00                   | mg/dl |
| CALCIUM, Serum(BAPTA)              | 9.12   | 8.60 - 10.00                  | mg/dl |
| PHOSPHATE, Serum(Phosphomolybdate) | 4.5    | 2.50 - 4.80                   | mg/dl |
| SODIUM, Serum(ISE Indirect)        | 137    | 130.00 - 149.00               | meq/L |
| POTASSIUM, Serum(ISE Indirect)     | 5.11   | 3.50 - 5.00                   | meq/L |
| CHLORIDE, Serum(ISE Indirect)      | 101    | 97.0 - 107.0                  | meq/L |

Comments:

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## Anti TG.

|                        |                   |                        |                   |                   |               |
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| <b>Ref. Doctor</b> :   | SELF              | <b>Hospital / NH</b> : | NA                |                   |               |

| <u>Investigation</u>   | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|--|---------------|--------------------------------------|--------------|
| Anti Thyroglobulin (Autoantibodies against thyroglobulin, Serum,(ECLIA)) | 16.30         | 0.00 - 115.00                        | IU/mL        |
| Comments:  |               |                                      |              |

\*\*\* END OF REPORT \*\*\*



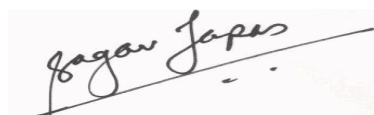

## Anti TPO.

|                        |                   |                        |                   |                   |               |
|------------------------|-------------------|------------------------|-------------------|-------------------|---------------|
| <b>Reference No.</b> : | 191048649         | <b>Reg. Date</b> :     | 03-Oct-2019 13:16 | <b>Age/Sex</b> :  | 50 Years MALE |
| <b>Patient</b> :       | MR. ANISH CHANANA | <b>Print Date</b> :    | 03-Oct-2019       | <b>Delivery</b> : |               |
| <b>Ref. Doctor</b> :   | SELF              | <b>Hospital / NH</b> : | NA                |                   |               |

| <u>Investigation</u> | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|----------------------|---------------|--------------------------------------|--------------|
| Anti TPO (ECLIA)     | 51.60         | 0.00 - 34.00                         | IU/mL        |

Comments:

\*\*\* END OF REPORT \*\*\*



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## THYROID PROFILE.

|               |                     |               |                     |          |                 |
|---------------|---------------------|---------------|---------------------|----------|-----------------|
| Reference No. | : 191048649         | Reg. Date     | : 03-Oct-2019 13:16 | Age/Sex  | : 50 Years MALE |
| Patient       | : MR. ANISH CHANANA | Print Date    | : 03-Oct-2019       | Delivery | :               |
| Ref. Doctor   | : SELF              | Hospital / NH | : NA                |          |                 |

| Investigation                      | Result | Biological Reference Interval | Units  |
|------------------------------------|--------|-------------------------------|--------|
| FT3, Serum,(CLIA)                  | 5.53   | 3.10 - 6.80                   | pmol/L |
| FREE T4, Serum,(CLIA)              | 17.43  | 12.00 - 22.00                 | pmol/l |
| TSH, (ULTRASENSITIVE) Serum,(CLIA) | 1.91   | 0.27 - 4.20                   | uIU/ml |

### \* PHYSIOLOGICAL ALTERATIONS IN THYROID VALUES

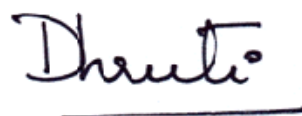
#### FT3

|                        |           |
|------------------------|-----------|
| Adults                 | 3.1 - 6.8 |
| Children & adolescence |           |
| 4-30 days              | 2.6 -8.3  |
| 2-12 mths              | 2.4 -9.8  |
| 2-6 years              | 2.9 -9.5  |
| 7-11 years             | 2.5 -9.2  |
| 12-19 years            | 3.1 -9.2  |

|                    |                     |                 |                  |                 |
|--------------------|---------------------|-----------------|------------------|-----------------|
| Adults             |                     |                 |                  |                 |
| TSH                | 0.27 - 4.20 uIU/ml  |                 |                  |                 |
| Children           | TSH (Ranges uIU/ml) |                 |                  |                 |
| Midgestation Fetus | 0.70 - 11.00        |                 |                  |                 |
| LBW cord serum     | 1.30 - 20.00        |                 |                  |                 |
| Term Infants       | 1.30 - 19.00        |                 |                  |                 |
| 3 days             | 1.10 - 17.00        |                 |                  |                 |
| 10 weeks           | 0.60 - 10.00        |                 |                  |                 |
| 14 months          | 0.40 - 7.00         |                 |                  |                 |
| 5 years            | 0.40 - 6.00         |                 |                  |                 |
| Pregnancy          | Units               | First Trimester | Second Trimester | Third Trimester |
| Free T3            | pmol/L              | 3.00 - 5.70     | 2.80 - 4.20      | 2.40 - 4.10     |
| Free T4            | pmol/L              | 11.10 - 24.10   | 8.20 - 24.70     | 8.20 - 24.70    |
| TSH                | uIU/mL              | 0.20 - 3.50     | 0.20 - 3.50      | 0.20 - 3.50     |

Comments:

\*\*\* END OF REPORT \*\*\*



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## TESTOSTERONE

|                        |                   |                        |                   |                   |               |
|------------------------|-------------------|------------------------|-------------------|-------------------|---------------|
| <b>Reference No.</b> : | 191048649         | <b>Reg. Date</b> :     | 03-Oct-2019 13:16 | <b>Age/Sex</b> :  | 50 Years MALE |
| <b>Patient</b> :       | MR. ANISH CHANANA | <b>Print Date</b> :    | 03-Oct-2019       | <b>Delivery</b> : |               |
| <b>Ref. Doctor</b> :   | SELF              | <b>Hospital / NH</b> : | NA                |                   |               |

| <u>Investigation</u>       | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|----------------------------|---------------|--------------------------------------|--------------|
| TESTOSTERONE, Serum,(CLIA) | 7.5           | 0.86 - 7.88                          | ng/ml        |

### Tanner Stage

Male ng/mL

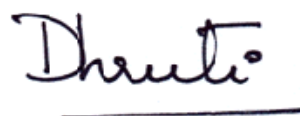
|               |            |
|---------------|------------|
| Tanner stage1 | <0.07-0.50 |
| Tanner stage2 | <0.07-2.16 |
| Tanner stage3 | 0.10-7.55  |
| Tanner stage4 | 0.67-7.71  |
| Tanner stage5 | 0.67-9.42  |

Females

|               |            |
|---------------|------------|
| Tanner stage1 | <0.07-0.71 |
| Tanner stage2 | <0.07-0.47 |
| Tanner stage3 | <0.07-0.37 |
| Tanner stage4 | <0.07-0.46 |
| Tanner stage5 | 0.11-0.60  |

Comments:

\*\*\* END OF REPORT \*\*\*



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## VITAMIN B12.

|                        |                   |                        |                   |                   |               |
|------------------------|-------------------|------------------------|-------------------|-------------------|---------------|
| <b>Reference No.</b> : | 191048649         | <b>Reg. Date</b> :     | 03-Oct-2019 13:16 | <b>Age/Sex</b> :  | 50 Years MALE |
| <b>Patient</b> :       | MR. ANISH CHANANA | <b>Print Date</b> :    | 03-Oct-2019       | <b>Delivery</b> : |               |
| <b>Ref. Doctor</b> :   | SELF              | <b>Hospital / NH</b> : | NA                |                   |               |

| <u>Investigation</u>       | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|----------------------------|---------------|--------------------------------------|--------------|
| VITAMIN B12, Serum,(ECLIA) | 453.10        |                                      | pg/ml        |

| Category  | Range (pg/mL) |
|-----------|---------------|
| Normal    | 197-771       |
| Deficient | <197.00       |

### Summary and Explanation of the Test

Vitamin B12, or cyanocobalamin, is a complex corrinoid compound containing four pyrrole rings that surround a single cobalt atom. Humans obtain vitamin B12 exclusively from animal dietary sources, such as meat, eggs, and milk. Vitamin B12 requires intrinsic factor, a protein secreted by the parietal cells in the gastric mucosa, for absorption. Vitamin B12 and intrinsic factor form a complex that attaches to receptors in the ileal mucosa, where proteins known as trans-cobalamins transport the vitamin B12 from the mucosal cells to the blood and tissues. Most vitamin B12 is stored in the liver as well as in the bone marrow and other tissues. Vitamin B12 and folate are critical to normal DNA synthesis, which in turn affects erythrocyte maturation. Vitamin B12 is also necessary for myelin sheath formation and maintenance. The body uses its B12 stores very economically, reabsorbing vitamin B12 from the ileum and returning it to the liver so that very little is excreted.

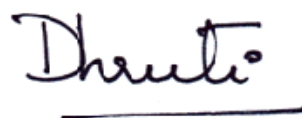
Clinical and laboratory findings for B12 deficiency include neurological abnormalities, decreased serum B12 levels, and increased excretion of methylmalonic acid. The impaired DNA synthesis associated with vitamin B12 deficiency causes macrocytic anemias. These anemias are characterized by abnormal maturation of erythrocyte precursors in the bone marrow, which results in the presence of megaloblasts and in decreased erythrocyte survival. Pernicious anemia is a macrocytic anemia caused by vitamin B12 deficiency that is due to lack of intrinsic factor. Low vitamin B12 intake, gastrectomy, diseases of the small intestine, malabsorption, and trans-cobalamin deficiency can also cause vitamin B12 deficiency.

### Limitations

\* kindly Correlate Clinically

### Comments:

\*\*\* END OF REPORT \*\*\*



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# VITAMIN D, 25 - HYDROXY

|                 |                   |                 |                   |            |               |
|-----------------|-------------------|-----------------|-------------------|------------|---------------|
| Reference No. : | 191048649         | Reg. Date :     | 03-Oct-2019 13:16 | Age/Sex :  | 50 Years MALE |
| Patient :       | MR. ANISH CHANANA | Print Date :    | 03-Oct-2019       | Delivery : |               |
| Ref. Doctor :   | SELF              | Hospital / NH : | NA                |            |               |

| <u>Investigation</u>                | <u>Result</u> | <u>Biological Reference Interval</u> | <u>Units</u> |
|-------------------------------------|---------------|--------------------------------------|--------------|
| VITAMIN D, 25-HYDROXY, Serum,(CLIA) | 50.0          | 75.00 - 250.00                       | nmol/L       |

Comments:

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## REPORT

Reference No. : 191048649 Reg. Date : 03-Oct-2019 13:16 Age/Sex : 50 Years MALE  
 Patient : MR. ANISH CHANANA Print Date : 03-Oct-2019 Delivery :  
 Ref. Doctor : SELF Hospital / NH : NA

| Investigation              | Result | Biological Reference Interval | Units  |
|----------------------------|--------|-------------------------------|--------|
| HOMOCYSTEINE, Serum (CLIA) | 14.8   | 0.00 - 15.00                  | umol/L |

### Interpretation

| Group                      | Folate supplemented | Nonsupplemented |
|----------------------------|---------------------|-----------------|
| Fasting/basal tHcy, µmol/L |                     |                 |
| Pregnancy                  | 8                   | 10              |
| Children < 15 years        | 8                   | 10              |
| Adults 15-65 years         | 12                  | 15              |
| Elderly > 65 years         | 16                  | 20              |

### Summary

Homocysteine (Hcy) is a thiol-containing amino acid produced by the intracellular demethylation of methionine. Total homocysteine (tHcy) represents the sum of all forms of Hcy including forms of oxidized, proteinbound and free. Elevated levels of tHcy has emerged as an important risk factor in the assessment of cardiovascular disease. Excess Hcy in the blood stream may cause injuries to arterial vessels due to its irritant nature, and result in inflammation and plaque formation, which may eventually cause blockage of blood flow to the heart. Elevated tHcy levels are caused by four major factors, including:

1. Genetic deficiencies in enzymes involved in Hcy metabolism such as cystathionine beta-synthase (CBS), methionine synthase (MS), and methylenetetrahydrofolate reductase (MTHFR);
2. Nutritional deficiency in B vitamins such as B6, B12 and folate;
3. Renal failure for effective amino acid clearance;
4. Drug interactions, such as with nitric oxide, methotrexate and phenytoin that interfere with Hcy metabolism. Elevated levels of tHcy are also linked with Alzheimer disease, Neuropsychiatric diseases and Osteoporosis.

### Comments:

\*\*\* END OF REPORT \*\*\*



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