

A PIONEER DIAGNOSTIC CENTRE

■ 0171-2532620, 8222896961 ■ pkrjainhealthcare@gmail.com

NAME : Mrs. REENA GUPTA

AGE/ GENDER : 44 YRS/FEMALE **PATIENT ID** : 1698893

COLLECTED BY REG. NO./LAB NO. : 122412140017

REFERRED BY **REGISTRATION DATE** : 14/Dec/2024 12:01 PM BARCODE NO. : 12506153 **COLLECTION DATE** : 14/Dec/2024 12:04PM CLIENT CODE. : P.K.R JAIN HEALTHCARE INSTITUTE REPORTING DATE : 14/Dec/2024 04:15PM

CLIENT ADDRESS : NASIRPUR, HISSAR ROAD, AMBALA CITY - HARYANA

Value Unit **Biological Reference interval Test Name**

HAEMATOLOGY COMPLETE BLOOD COUNT (CBC)

RED BLOOD CELLS (RBCS) COUNT AND INDICES

HAEMOGLOBIN (HB) by CALORIMETRIC	12.1	gm/dL	12.0 - 16.0
RED BLOOD CELL (RBC) COUNT by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE	4.37	Millions/cmm	3.50 - 5.00
PACKED CELL VOLUME (PCV) by calculated by automated hematology analyzer	35.9 ^L	%	37.0 - 50.0
MEAN CORPUSCULAR VOLUME (MCV) by calculated by automated hematology analyzer	82.1	fL	80.0 - 100.0
MEAN CORPUSCULAR HAEMOGLOBIN (MCH) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	27.7	pg	27.0 - 34.0
MEAN CORPUSCULAR HEMOGLOBIN CONC. (MCHC) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	33.7	g/dL	32.0 - 36.0
RED CELL DISTRIBUTION WIDTH (RDW-CV) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	13.3	%	11.00 - 16.00
RED CELL DISTRIBUTION WIDTH (RDW-SD) by CALCULATED BY AUTOMATED HEMATOLOGY ANALYZER	40.4	fL	35.0 - 56.0
MENTZERS INDEX by CALCULATED	18.79	RATIO	BETA THALASSEMIA TRAIT: < 13.0 IRON DEFICIENCY ANEMIA: >13.0
GREEN & KING INDEX by CALCULATED	25	RATIO	BETA THALASSEMIA TRAIT:<= 65.0 IRON DEFICIENCY ANEMIA: > 65.0
WHITE BLOOD CELLS (WBCS)			
TOTAL LEUCOCYTE COUNT (TLC) by flow cytometry by sf cube & microscopy	7070	/cmm	4000 - 11000
DIFFERENTIAL LEUCOCYTE COUNT (DLC)			
NEUTROPHILS by flow cytometry by sf cube & microscopy	62	%	50 - 70
LYMPHOCYTES	28	%	20 - 40



CONSULTANT PATHOLOGIST MBBS, MD (PATHOLOGY & MICROBIOLOGY)







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Test Name	Value	Unit	Biological Reference interval	
by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY				
EOSINOPHILS	3	%	1 - 6	
by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY				
MONOCYTES	7	%	2 - 12	
by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY		0/	0.4	
BASOPHILS by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY	0	%	0 - 1	
ABSOLUTE LEUKOCYTES (WBC) COUNT				
ABSOLUTE NEUTROPHIL COUNT	4383	/cmm	2000 - 7500	
by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY	1000	/	000 4000	
ABSOLUTE LYMPHOCYTE COUNT by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY	1980	/cmm	800 - 4900	
ABSOLUTE EOSINOPHIL COUNT	212	/cmm	40 - 440	
by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY	212	/ CIIIII	10 - 110	
ABSOLUTE MONOCYTE COUNT	495	/cmm	80 - 880	
by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY				
ABSOLUTE BASOPHIL COUNT	0	/cmm	0 - 110	
by FLOW CYTOMETRY BY SF CUBE & MICROSCOPY				
PLATELETS AND OTHER PLATELET PREDICTIVE MARKERS.				
PLATELET COUNT (PLT)	242000	/cmm	150000 - 450000	
by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE				
PLATELETCRIT (PCT)	0.32	%	0.10 - 0.36	
by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE				
MEAN PLATELET VOLUME (MPV)	13 ^H	fL	6.50 - 12.0	
by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE	И	/	20000 00000	
PLATELET LARGE CELL COUNT (P-LCC) by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE	118000 ^H	/cmm	30000 - 90000	
PLATELET LARGE CELL RATIO (P-LCR)	48.9 ^H	%	11.0 - 45.0	
by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE	48.9	/0	11.0 - 10.0	
PLATELET DISTRIBUTION WIDTH (PDW)	16.4	%	15.0 - 17.0	
by HYDRO DYNAMIC FOCUSING, ELECTRICAL IMPEDENCE				



CONSULTANT PATHOLOGIST MBBS, MD (PATHOLOGY & MICROBIOLOGY) MBBS, MD (PATHOLOGY)

NOTE: TEST CONDUCTED ON EDTA WHOLE BLOOD

DR.YUGAM CHOPRA CONSULTANT PATHOLOGIST



440 Dated 17.5.2012 u/s 80 G OF INCOME TAX ACT. PAN NO. AAAAP1600. REPORT ATTRACTS THE CONDITIONS PRINTED OVERLEAF (P.T.O.)





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: P.K.R JAIN HEALTHCARE INSTITUTE

Value Unit **Test Name Biological Reference interval**

REPORTING DATE

ERYTHROCYTE SEDIMENTATION RATE (ESR)

ERYTHROCYTE SEDIMENTATION RATE (ESR)

by RED CELL AGGREGATION BY CAPILLARY PHOTOMETRY

mm/1st hr

0 - 20

: 14/Dec/2024 04:15PM

INTERPRETATION:

CLIENT CODE.

1. ESR is a non-specific test because an elevated result often indicates the presence of inflammation associated with infection, cancer and auto-immune disease, but does not tell the health practitioner exactly where the inflammation is in the body or what is causing it.

2. An ESR can be affected by other conditions besides inflammation. For this reason, the ESR is typically used in conjunction with other test such as C-reactive protein

3. This test may also be used to monitor disease activity and response to therapy in both of the above diseases as well as some others, such as systemic lupus erythematosus

CONDITION WITH LOW ESR

A low ESR can be seen with conditions that inhibit the normal sedimentation of red blood cells, such as a high red blood cell count (polycythaemia), significantly high white blood cell count (leucocytosis), and some protein abnormalities. Some changes in red cell shape (such as sickle cells in sickle cell anaemia) also lower the ESR.

NOTE:

- 1. ESR and C reactive protein (C-RP) are both markers of inflammation.
- 2. Generally, ESR does not change as rapidly as does CRP, either at the start of inflammation or as it resolves.
 3. CRP is not affected by as many other factors as is ESR, making it a better marker of inflammation.
 4. If the ESR is elevated, it is typically a result of two types of proteins, globulins or fibringen.
 5. Women tend to average mathyldone and entraceptives professional processing mathyldone and with the opposition of the oppositio

- 6. Drugs such as dextran, methyldopa, oral contraceptives, penicillamine procainamide, theophylline, and vitamin A can increase ESR, while aspirin, cortisone, and quinine may decrease it



DR.VINAY CHOPRA CONSULTANT PATHOLOGIST MBBS, MD (PATHOLOGY & MICROBIOLOGY)



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PKR JAIN HEALTHCARE INSTITUTE NASIRPUR, Hissar Road, AMBALA CITY- (Haryana)

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Value Unit **Biological Reference interval Test Name**

CLINICAL CHEMISTRY/BIOCHEMISTRY **GLUCOSE RANDOM (R)**

89.88 GLUCOSE RANDOM (R): PLASMA NORMAL: < 140.00 mg/dL

by GLUCOSE OXIDASE - PEROXIDASE (GOD-POD) PREDIABETIC: 140.0 - 200.0 DIABETIC: > 0R = 200.0

INTERPRETATION

IN ACCORDANCE WITH AMERICAN DIABETES ASSOCIATION GUIDELINES:

1. A random plasma glucose level below 140 mg/dl is considered normal.

2. A random glucose level between 140 - 200 mg/dl is considered as glucose intolerant or prediabetic. A fasting and post-prnadial blood test (after consumption of 75 gms of glucose) is recommended for all such patients.

3. A random glucose level of above 200 mg/dl is highly suggestive of diabetic state. A repeat post-prandial is strongly recommended for all such patients. A fasting plasma glucose level in excess of 125 mg/dl on both occasions is confirmatory for diabetic state.



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URIC ACID

URIC ACID: SERUM 2.53 mg/dL 2.50 - 6.80

by URICASE - OXIDASE PEROXIDASE

INTERPRETATION:-

1.GOUT occurs when high levels of Uric Acid in the blood cause crystals to form & accumulate around a joint.

2.Uric Acid is the end product of purine metabolism. Uric acid is excreted to a large degree by the kidneys and to a smaller degree in the intestinal tract by microbial degradation.

INCREASED:-

(A).DUE TO INCREASED PRODUCTION:-

1.Idiopathic primary gout.

2. Excessive dietary purines (organ meats, legumes, anchovies, etc).

3. Cytolytic treatment of malignancies especially leukemais & lymphomas.

4. Polycythemai vera & myeloid metaplasia.

5. Psoriasis.

Sickle cell anaemia etc.

(B).DUE TO DECREASED EXCREATION (BY KIDNEYS)

1. Alcohol ingestion.

- 2. Thiazide diuretics.
- 3.Lactic acidosis.
- 4. Aspirin ingestion (less than 2 grams per day).
- 5. Diabetic ketoacidosis or starvation.
- 6.Renal failure due to any cause etc.

DECREASED:-

(A).DUE TO DIETARY DEFICIENCY

- 1. Dietary deficiency of Zinc, Iron and molybdenum.
- 2. Fanconi syndrome & Wilsons disease.
- 3. Multiple sclerosis
- 4. Syndrome of inappropriate antidiuretic hormone (SIADH) secretion & low purine diet etc.

(B).DUE TO INCREASED EXCREATION

1.Drugs:-Probenecid, sulphinpyrazone, aspirin doses (more than 4 grams per day), corticosterroids and ACTH, anti-coagulants and estrogens etc.



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0.35 - 5.50

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ENDOCRINOLOGY THYROID STIMULATING HORMONE (TSH)

THYROID STIMULATING HORMONE (TSH): SERUM 1.35 μIU/mL

by CMIA (CHEMILUMINESCENT MICROPARTICLE IMMUNOASSAY) 3rd GENERATION, ULTRASENSITIVE

INTERPRETATION:

AGE	REFFERENCE RANGE (μIU/mL)		
0 – 5 DAYS	0.70 - 15.20		
6 Days – 2 Months	0.70 – 11.00		
3 – 11 Months	0.70 - 8.40		
1 – 5 Years	0.70 – 7.00		
6 – 10 Years	0.60 - 5.50		
11 - 15	0.50 - 5.50		
> 20 Years (Adults)	0.27 - 5.50		
PRI	EGNANCY		
1st Trimester	0.10 - 3.00		
2nd Trimester	0.20 - 3.00		
3rd Trimester	0.30 - 4.10		

NOTE:-TSH levels are subjected to circardian 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 concentration.

USE: TSH controls biosynthesis and release of thyroid harmones T4 & T3. It is a sensitive measure of thyroid function, especially useful in early or subclinical hypothyroidism, before the patient develops any clinical findings or goitre or any other thyroid function abnormality.

INCREASED LEVELS:

- 1. Primary or untreated hypothyroidism, may vary from 3 times to more than 100 times normal depending on degree of hypofunction.
- 2. Hypothyroid patients receiving insufficient thyroid replacement therapy.
- 3. Hashimotos thyroiditis.
- 4.DRUGS: Amphetamines, Iodine containing agents and dopamine antagonist.
- 5. Neonatal period, increase in 1st 2-3 days of life due to post-natal surge.

DECREASED LEVELS:

- 1. Toxic multi-nodular goitre & Thyroiditis.
- 2. Over replacement of thyroid harmone in treatment of hypothyroidism.
- 3. Autonomously functioning Thyroid adenoma
- 4. Secondary pituatary or hypothalmic hypothyroidism
- 5. Acute psychiatric illness
- 6. Severe dehydration.
- 7.DRUGS: Glucocorticoids, Dopamine, Levodopa, T4 replacement therapy, Anti-thyroid drugs for thyrotoxicosis.



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Test Name Value Unit **Biological Reference interval**

8. Pregnancy: 1st and 2nd Trimester LIMITATIONS:

1.TSH may be normal in central hypothyroidism, recent rapid correction of hyperthyroidism or hypothyroidism, pregnancy, phenytoin therapy.

2. Autoimmune disorders may produce spurious results.

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Value Unit **Biological Reference interval Test Name**

IMMUNOPATHOLOGY/SEROLOGY RHEUMATOID FACTOR (RA): QUANTITATIVE - SERUM

REPORTING DATE

RHEUMATOID (RA) FACTOR QUANTITATIVE: 6.95 IU/mL NEGATIVE: < 18.0

SERUM BORDERLINE: 18.0 - 25.0

by NEPHLOMETRY POSITIVE: > 25.0

CLIENT CODE.

<u>INTERPRETATION:-</u> RHEUMATOID FACTOR (RA):

1. Rheumatoid factors (RF) are antibodies that are directed against the Fc fragment of IgG altered in its tertiary structure.

2. Over 75% of patients with rheumatoid arthritis (RA) have an IgM antibody to IgG immunoglobulin. This autoantibody (RF) is diagnostically useful although it may not be etiologically related to RA.

3. Inflammatory Markers such as ESR & C-Reactive protein (CRP) are normal in about 60 % of patients with positive RA.

4. The titer of RF correlates poorly with disease activity, but those patients with high titers tend to have more severe disease course.

The test is useful for diagnosis and prognosis of rheumatoid arthritis.

RHEUMATOID ARTHIRITIS:

- 1. Rheumatoid Arthiritis is a systemic autoimmune disease that is multi-functional in origin and is characterized by chronic inflammation of the membrane lining (synovium) joints which ledas to progressive joint destruction and in most cases to disability and reduction of quality life. 2. The disease spredas from small to large joints, with greatest damage in early phase.
- 3. The diagnosis of RA is primarily based on clinical, radiological & immunological features. The most frequent serological test is the measurement of RA factor.
 CAUTION (FALSE POSTIVE):-

- 1. RA factor is not specific for Rheumatoid arthiritis, as it is often present in healthy individuals with other autoimmune diseases and chronic infections.
 2. Non rheumatoid and rheumatoid arthritis (RA) populations are not clearly separate with regard to the presence of rheumatoid factor (RF) (15% of RA patients have a nonreactive titer and 8% of nonrheumatoid patients have a positive titer).
- 3. Patients with various nonrheumatoid diseases,characterized by chronic inflammation may have positive tests for RF. These diseases include systemic lupus erythematosus, polymyositis, tuberculosis, syphilis, viral hepatitis, infectious mononucleosis, and influenza.
- 4. Anti-CCP have been discovered in joints of patients with RA, but not in other form of joint disease. Anti-CCP2 is HIGHLY SENSITIVE (71%) & more specific (98%) than RA factor.

5. Upto 30 % of patients with Seronegative Rheumatoid arthiritis also show Anti-CCP antibodies.

6. The positive predictive value of Anti-CCP antibodies for Rheumatoid Arthiritis is far greater than Rheumatoid factor.

*** End Of Report ***



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