

Barcode No:	00511047		Reg No.	181080
Patient Name:	MR. OM PARKASH		Reg Date	03-Aug-2024 05:03 AM
Age/Sex:	65Y 0M 0D/Male		Sample Coll. Date	03-Aug-2024 05:03 AM
Referred By:	Dr. LIFE CARE LAB		Sample Rec. Date	03-Aug-2024 05:05 AM
Client Code/Name:	HR0175-KKR LAB		Report Date:	03-Aug-2024 08:43 AM
Panel Address:	KURUKSHETRA			

HAEMATOLOGY

HS1.1

Test Name	Result	Flag	Biological Ref. Range/Unit
Complete Blood Count (CBC), Whole Blood EDTA			
Hemoglobin (Hb) <small>Photometric Cyanmethemoglobin Method</small>	6.70	Low	13.0-17.0 gm/dl
Rythocyte Count (RBCs Counts) <small>Optical Flow Cytometry</small>	2.50	Low	4.5-5.5 10 ⁶ /uL
Packed Cell Volume (PCV) Hematocrit <small>RBC Pulse Hight Detection</small>	21.40	Low	40-50 %
Mean Corpuscular Volume (MCV) <small>Automated/Calculated</small>	85.30	Normal	83 - 101 fL
Mean Corpuscular Hemoglobin (MCH) <small>Automated/Calculated</small>	26.70	Normal	24-32 pg/cell
Mean Corpuscular Hb concentration (MCHC) <small>Automated/Calculated</small>	31.30	Normal	28 - 35 g/dL
Red Blood Cell Distribution Width Coefficient of Variation (RDW-CV) <small>Automated/Calculated</small>	13.70	Normal	11.7 - 17.2 %
Red Blood Cell Distribution Width Standard Deviation (RDW-SD) <small>Automated/Calculated</small>	45.30	Normal	36.4 - 58.0 10 ³ /uL
Platelet Count <small>Automated Optical Flow Cytometry /Manual Calculated</small>	174	Normal	150-410 10 ³ /uL
Plateletcrit (PCT) <small>Automated Optical Flow Cytometry /Manual Calculated</small>	0.20	Normal	0.15 - 0.39 %
Mean Platelet Volume (MPV) <small>Automated/Calculated</small>	11.20	Normal	7.0- 12.5 %
Platelet Distribution Width (PDW) <small>Automated/Calculated</small>	15.1	Normal	9.2-17.9 %
Platelet-Large Cell Count (P-LCC) <small>Automated/Calculated</small>	67.0	Normal	
Platelet Larger Cell Ratio (P-LCR) <small>Automated/Calculated</small>	38.50	Normal	18.5 - 68.0 %
Total Leukocyte Count (TLC/WBC Counts) <small>Automated Optical Flow Cytometry /Manual Calculated</small>	5.14	Normal	4.0-11 10 ³ /uL
Differential Leukocyte Count (DLC) <small>Cytometry/Manual/ Microscopic</small>			
Neutrophils <small>Impedance Flow Cytometry/ Microscopy</small>	42.0	Normal	40 - 75 %
Lymphocytes <small>Impedance Flow Cytometry/ Microscopy</small>	54.0	High	20 - 40 %
Monocytes <small>Impedance Flow Cytometry/ Microscopy</small>	2.0	Normal	2 - 10 %
Eosinophils <small>Impedance Flow Cytometry/ Microscopy</small>	2.0	Normal	1 - 6 %

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Client Code/Name:	HR0175-KKR LAB		Report Date:	03-Aug-2024 08:46 AM
Panel Address:	KURUKSHETRA			

HAEMATOLOGY

HS1.1

TestName	Result	Flag	Biological Ref. Range/Unit
Erythrocyte Sedimentation Rate (ESR), Whole Blood EDTA			
Erythrocyte Sedimentation Rate (ESR) <small>Westergreen Method</small>	75	High	<15 mm/hr

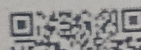
CLINICAL COMMENTS: Erythrocyte sedimentation rate (ESR or sed rate) is a relatively simple, inexpensive, non-specific test that indirectly measures the degree of inflammation present in the body. Inflammation is part of the body's immune response. It can be acute, developing rapidly after trauma, injury or infection, for example, or can occur over an extended time (chronic) with conditions such as autoimmune diseases or cancer. Moderately elevated ESR occurs with inflammation but also with anemia, infection, pregnancy, and with aging. A very high ESR usually has an obvious cause, such as a severe infection, marked by an increase in globulins, systemic vasculitis, polymyalgia rheumatica or temporal arteritis. People with multiple myeloma or Waldenstrom's macroglobulinemia (tumors that make large amounts of immunoglobulins) typically have very high ESRs even if they don't have inflammation.

Factors increasing ESR:

- Advanced age
- Anemia
- Pregnancy
- High fibrinogen
- Macrocytosis
- Kidney problems
- Thyroid disease
- Some cancers, such as multiple myeloma
- Infection

Factors decreasing ESR

- Microcytosis
- Low fibrinogen
- Polycythemia
- Marked leukocytosis



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BIOCHEMISTRY & IMMUNOLOGY

HS1.1

TestName	Result	Flag	Biological Ref. Range/Unit
Lipid (Heart Risk) Profile, Serum			
TOTAL CHOLESTEROL <small>Chod/Pap Method</small>	119.44	Normal	Desirable:80-200 Borderline High: 200 - 239 High > 240 mg/dL
TRIGLYCERIDES <small>Gpo/Pap Method</small>	78.46	Normal	Normal 150 Border line High 150-199 High 200-499 Very High> 500 mg/dL
HDL CHOLESTEROL <small>Direct Enzymatic Method</small>	49.50	Normal	35 - 60 mg/dL
LDL CHOLESTEROL <small>Direct Enzymatic Method</small>	54.25	Normal	Normal: 00-100, Above optimal: 101-130, Borderline High: 130-160, High; 160-200 mg/dL
VERY LOW DENSITY LIPOPROTEIN (VLDL) <small>Automated/Calculated</small>	15.69	Normal	0.0-30.0 mg/dL
TOTAL CHOLESTEROL / HDL CHOLESTEROL Ratio <small>Automated/Calculated</small>	2.41	Normal	<5.0 mg/dL
LDL / HDL CHOLESTEROL Ratio <small>Automated/Calculated</small>	1.10	Low	Less than 3.50 mg/dL
TOTAL LIPIDS <small>Automated/Calculated</small>	326.65	Low	400-1000 mg/dL

CLINICAL COMMENTS: Lipid Profile is the blood test useful in screening the abnormalities associated with lipids. The results of this test can assess approx cardiovascular disease (Heart attack, Heart Failure, stroke, coronary artery disease), certain forms of pancreatitis, Hypertriglyceridemia (indicative of insulin resistance) and certain genetic disorders. Total cholesterol is an estimate of all the cholesterol in the blood. Thus, higher total cholesterol may be due to high levels of HDL or high levels of LDL. So knowing the breakdown is important. High-density lipoprotein (HDL) is good cholesterol. HDL helps carry bad cholesterol out of the blood stream. It plays a very important role in preventing clogged arteries. So, the higher the HDL number, the better. Low-density lipoprotein (LDL) is bad cholesterol. High levels increase the risk of heart disease. Your actual LDL goal depends on whether or not you have existing risk factors for heart disease, such as diabetes, high blood pressure. Very Low-density lipoprotein (VLDL) is a type of bad cholesterol that contains the highest amount of triglycerides. The higher your VLDL level, the higher your total cholesterol and LDL levels may be high, as well. Lifestyle plays a large role in your triglyceride level. Smoking, excessive drinking, uncontrolled diabetes, and conditions such as estrogen, steroids, and some acne treatments can contribute to high triglyceride levels. Total cholesterol to HDL ratio is useful in predicting the risk of developing atherosclerosis (plaque build-up inside the arteries). **NOTE: 10-12 Hours Fasting is Mandatory for Lipid Profile.** In case of turbid specimen, the test cannot be performed on the specimen but the patient can request for this test after consuming a fat free diet for at least a week.

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94-A Pocket F, MIG FLAT Guru Teg Bahadur Hospital Opp. Gate No.5 G.T.B. Enclave, Delhi-110095 **LABORATORY TEST REPORT**

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 Report Date: 03-Aug-2024 08:44 AM

BIOCHEMISTRY & IMMUNOLOGY

HSL1

TestName	Result	Flag	Biological Ref. Range/Unit
Liver Function Test (LFT) - Extended, Serum			
Bilirubin Total Mod. Jendrassik and Grof's Method	0.82	Normal	0.1-1.2 mg/dL
Bilirubin Direct DCA METHOD	0.14	Normal	0.00 - 0.30 mg/dL
Bilirubin Indirect Calculated	0.68	Normal	0.1 - 1.10 mg/dL
Aspartate Transaminase (AST/SGOT) Mod. IFCC Method	19.30	Normal	0-50 U/L
Alanine Amino Transferase (ALT/SGPT) Mod. IFCC Method	28.10	Normal	3-50 U/L
SGOT/SGPT Ratio Automated/Calculated	0.69	Normal	0.00 - 3.50 g/dL
Alkaline Phosphatase (ALP) Mod. IFCC Method	82.60	Normal	43-115 U/L
Gamma Glutamyl Transferase (GGT) Carboxy Substrate Method	23.50	Normal	5 - 64 U/L
Protein Total Biuret Method	7.11	Normal	6.4-8.3 g/dL
Albumin BCG (Bromo Cresol Green) Method	4.27	Normal	3.5-5.6 g/dL
Globulin Automated/Calculated	2.84	Normal	2.5 - 3.8 g/dL
Albumin/Globulin Ratio (A/G) Automated/Calculated	1.50	Normal	1.00 - 2.30 g/dL

CLINICAL COMMENTS: Liver function tests can be suggested in case of hepatitis, liver cirrhosis and monitor possible side effects of medications. A variety of diseases and infections can cause or chronic damage to the liver, causing inflammation (hepatitis), scarring (cirrhosis), bile duct obstructions, liver tumors, and liver dysfunction. Alcohol, drugs, some herbal supplements can also injure the liver. A significant amount of liver damage may occur before symptoms such as jaundice, dark urine, light-colored stools, itching (pruritus), nausea, fatigue, diarrhea, unexplained weight loss or gain appear. Early detection of liver injury is essential in order to minimize damage and preserve liver function. **Alanine aminotransferase (ALT)** A very high level of ALT is frequently seen with acute hepatitis. Moderate increases may be seen with chronic hepatitis. People with blocked bile ducts, cirrhosis, and liver cancer may have ALT concentrations that are moderately elevated or close to normal. **Aspartate aminotransferase (AST)** A very high level of AST is frequently seen with acute hepatitis. AST may be normal to moderately elevated in chronic hepatitis. In people with blocked bile ducts, cirrhosis, and liver cancer, AST concentrations may be moderately increased or close to normal. When liver damage is due to alcohol, AST often increases much more than ALT (this is a pattern seen with few other liver diseases). AST is also increased after heart attacks and with muscle injury. AST is a less sensitive marker of liver injury than ALT. AST is more elevated than ALT in alcohol-induced liver injury. AST could be elevated more than ALT like: (i) alcoholic liver disease, (ii) hemolysis, (iii) renal failure, (iv) pyridoxal phosphate deficiency, (v) pyridoxal phosphate, which is a co-factor for AST; (vi) Wilson disease results in subclinical haemolysis and release of AST; (vii) the presence of liver cirrhosis; (viii) if liver disease is established, AST remains higher than ALT because of destroyed sinusoidal architecture, which results in impaired clearance of AST. **Alkaline phosphatase (ALP)** may be elevated in liver disease with obstructed bile ducts, cirrhosis, liver cancer, and also with bone disease. **Albumin** is often normal in liver disease but may be low due to decreased production, especially in advanced liver disease. **Total protein (TP)** is typically normal with liver disease. **Gamma-glutamyl transferase (GGT)** test may be used to help determine the cause of an elevated ALP. Both ALP and GGT are elevated in bile duct and liver disease, but only ALP will be elevated in bone disease. Increased GGT levels are also seen with alcohol consumption and with conditions, such as congestive heart failure.

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BIOCHEMISTRY & IMMUNOLOGY

HS1.1

TestName	Result	Flag	Biological Ref. Range/Unit
KIDNEY PROFILE (KFT), Serum			
Urea GLDH KINETIC METHOD	108.78	High	17.0-44.0 mg/dL
Creatinine ,Serum Enzymatic Pap Method	8.94	High	0.5-1.2 mg/dL
Uric Acid Uricase/ Pap Method	4.00	Normal	3.5-7.2 mg/dL
Blood Urea Nitrogen (BUN) Automated/Calculated	50.83	High	6.0 - 20.0 mg/dL
BUN/Creatinine Ratio Automated/Calculated	5.69	Normal	0.00 - 23.0 mg/dL
Urea/Creatinine Ratio Automated/Calculated	12.17	Normal	0.00 - 45.0 mg/dL
Calcium Total	9.14	Normal	8.6 - 10.5 mg/dL
ELECTROLYTE PROFILE (*)			
Sodium	132.60	Low	135-145 mmol/L
Potassium	5.68	High	3.5-5.2 mmol/L
Chloride Serum	114.20	High	97.0-110 mmol/L

COMMENTS: KINDLY CORRELATE WITH CLINICAL FINDINGS.

CLINICAL COMMENTS UREA: High urea levels suggest poor kidney function, congestive heart failure, shock, stress, recent heart attack or severe burns; bleeding in the gastrointestinal tract; conditions that cause obstruction of urine flow or dehydration. Low urea levels can be seen in severe liver disease or malnutrition but are not used to diagnose or monitor liver disease. Low urea levels are also seen in normal pregnancy. CREATININE: Increases in any renal functional impairment (intrinsic renal lesions, decreased perfusion of the kidney, or obstruction of the lower urinary tract), acromegaly and hyperthyroidism. Decreases in pregnancy, muscle wasting. URIC ACID: Increases in case of renal failure, disseminated neoplasms, pregnancy, liver disease, sarcoidosis etc. Decrease is reported in Wilson's disease, Fanconi's syndrome, xanthinuria. SODIUM: Increases due to water loss (severe diarrhea profuse sweating, hypergluco- or mineralo-corticoidism, and inadequate water intake. Decreases due to intake of free water or hypotonic solutions. Dilutional hyponatremia (liver failure, cardiac failure, syndrome, malnutrition, renal tubular abnormalities). POTASSIUM: Increases due to excess destruction of cells, redistribution of K⁺ from the intra- to the extracellular space (trauma, burns, massive haemolysis, malignant hyperpyrexia and hyperkinetic activity). Decreased renal K⁺ excretion (acute renal failure, some cases of chronic renal failure, Addison's disease, adrenal insufficiency, potassium-depleted states). Decreases due to excess K⁺ loss (vomiting, diarrhea, renal tubular defects, villous adenoma of the colorectum, hypercorticoidism, etc), Redistribution of potassium (insulin therapy, alkalosis and periodic paralysis). CHLORIDE: Increases in case of dehydration, acute renal failure, renal tubular acidosis, diabetes insipidus, prolonged vomiting, alkalosis, salicylate toxicity, hypothalamic lesions, and adrenocortical hyperfunction. Decreases in case of excessive sweating, prolonged vomiting, adrenocortical deficiency, acute intermittent porphyria, various acid base disturbances, expansion of extracellular fluid volume etc. Urea nitrogen (BUN): Increases in case of acute & chronic renal failure, renal obstruction of urine, high protein intake. Decreases with high carbohydrate/low protein diets, increased anabolic demand (late pregnancy, infancy, acromegaly), malabsorption, liver damage. CALCIUM: Increases in case of malignant neoplasms (with or without bone involvement), vit-D intoxication, primary and tertiary hyperparathyroidism, sarcoidosis, hyperparathyroidism (with immobilization), thyrotoxicosis, acromegaly, diuretic phase of renal acute tubular necrosis

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BIOCHEMISTRY & IMMUNOLOGY

HSI.1

TestName	Result	Flag	Biological Ref. Range/Unit
eGFR, Serum			
eGFR	8.94	High	0.50 - 1.30 mg/dL
ESTIMATED GFR BY CKD	5.56	Low	>60 mL/min/1.73m ²
ESTIMATED GFR BY MDRD	6.36	Low	>60 mL/min/1.73m ²

INTERPRETATION:

AGE IN YEARS	GFR IN mL/min/1.73m ²
20-29	116
30-39	107
40-49	99
50-59	93
60-69	85
>=70	75


- NOTE:**
- National Kidney Disease Education program recommends the use of MDRD equation to estimate or predict GFR in adults (>=20 years) with Chronic Kidney Disease (CKD)
 - MDRD equation is most accurate for GFR <=60 mL/min/1.73m².
 - Recalculation of estimated GFR is required for African American race.

INTERPRETATION:

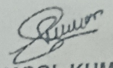
CKD STAGE	DESCRIPTION	GFR (mL/min/1.73m ²)	ASSOCIATED FINDINGS
0	Normal kidney function	>90	No proteinuria
1	Kidney damage with normal or high GFR	>90	Presence of Protein, albumin, cells or casts in urine
2	Mild decrease in GFR	60-89	-
3	Moderate decrease in GFR	30-59	-
4	Severe decrease in GFR	15-29	-
5	Kidney failure	<15	-

COMMENTS:

Modification of diet in renal disease (MDRD) equation is most thoroughly validated and superior to all the other methods for estimation of GFR. It does not require weight as a variable and yields an estimated GFR normalized to 1.73m² body surface area. Using creatinine alone gives a poor inference of GFR because they are inversely related and effects of age, sex and race on creatinine production complicate interpretation. For African American races a modified formula is used for calculation of GFR.


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IMMUNOLOGY

TestName	Result	Flag	Biological Ref. Range/Unit
Thyroid Function Test (TFT), Serum			
Tri-iodothyronine (TT3) Electro Chemiluminescence Immunoassay (ECLIA)	1.48	Normal	0.80-2.0 ng/mL
Thyroxine Total (TT4) Electro Chemiluminescence Immunoassay (ECLIA)	8.63	Normal	4.0-12 ug/dL
Thyroid Stimulating Hormone (TSH) (CMIA), ULTRA SENSITIVE Electro Chemiluminescence Immunoassay (ECLIA)	1.510	Normal	Non-Pregnant 0.38-5.33 pregnant female 1st trimester 0.05-3.70 2nd trimester 0.31-4.35 3rd trimester 0.41-5.18 mIU/L

Comments:

T4 is physiologically more active than T4 & plays an important role in maintaining euthyroidism. T3 circulates in free form (0.3 %) and in bound form (99.7%) is predominantly bound to carrier protein - thyroid binding globulin (TBG-99.9%). T4 assay aids in diagnosis of hyperthyroidism - primary or secondary hypothyroidism & thyroid hormone resistances. T4 test must also be associated with the other tests of the thyroid assessment, such as TSH & T3 as well as with clinical examination to the patient. TSH levels are subject to circadian variation, reaching peak levels between 2am to 4am and at a minimum between 6pm to 10pm. The variation is of the order of 50%; hence time of the day has influence on the measured serum TSH concentrations.

Significant numbers of patients particularly those above 55 years of age have a serum TSH level between 4.68 & 10 µIU/ml. This borderline elevation may be a sign of presence of SUBCLINICAL HYPOTHYROIDISM. Thyroid profile and an anti-thyroid antibody (TPO & TG) estimation is suggested in all such cases.

Very low serum TSH values are observed in patients who are being treated for hypothyroidism. In such patients Serum Free T3 & Free T4 estimation is performed.

In Pregnancy as per American Thyroid Association Reference range for TSH is as follows:-

Level	Total T3(ng/ml)	Total T4(ug/dl)	TSH(uIU/ml)	Free T3(pmol/L)	Free T4(ng/dl)
1 st Trimester	1.25-2.93	4.60-10.50	0.3-4.5	3.2-6.8	0.7-2.0
2 nd Trimester	1.54-4.00	6.92-12.38	0.5-4.6	3.1-5.9	0.5-1.60
3 rd Trimester	1.54-4.00	5.98-12.98	0.8-5.2	3.1-5.9	0.6-1.60

All reports must be interpreted by treating physician only.

***** End of Report *****