LPL - LPL-ROHINI (NATIONAL REFERENCE LAB)
SECTOR - 18, BLOCK -E ROHINI
DELHI 110085

Name	: **Mr. DUMMY-----Z513**			**Collected**	: **16/4/2018 2:26:00PM**
Lab No.	: **LPLT12449**	**Age: 15 Years**	**Gender: Male**	**Received**	: **16/4/2018 2:35:30PM**
A/c Status	: **P**	**Ref By : ----------**		**Reported**	: **28/6/2018 3:24:46PM**
				Report Status	:

ANEMIA PANEL 2

Test Name	Results	Units	Bio. Ref. Interval
COMPLETE BLOOD COUNT (CBC) (Electrical Impedance & VCS,Photometry)			
Hemoglobin		g/dL	13.00 - 17.00
Packed Cell Volume (PCV)		%	40.00 - 50.00
RBC Count		mill/mm3	4.50 - 5.50
MCV		fL	80.00 - 100.00
MCH		pg	27.00 - 32.00
MCHC		g/dL	32.00 - 35.00
Red Cell Distribution Width (RDW)		%	11.50 - 14.50
Total Leukocyte Count (TLC)		thou/mm3	4.00 - 10.00
Differential Leucocyte Count (DLC)			
Segmented Neutrophils		%	40.00 - 80.00
Lymphocytes		%	20.00 - 40.00
Monocytes		%	2.00 - 10.00
Eosinophils		%	1.00 - 6.00
Basophils		%	<2.00
Metamyelocytes		%	
Myelocytes		%	
Promyelocytes		%	
Blasts		%	
Absolute Leucocyte Count			
Neutrophils		thou/mm3	2.00 - 7.00
Lymphocytes		thou/mm3	1.00 - 3.00
Monocytes		thou/mm3	0.20 - 1.00
Eosinophils		thou/mm3	0.02 - 0.50
Basophils		thou/mm3	0.01 - 0.10
Others			

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Test Name	Results	Units	Bio. Ref. Interval
Platelet Count		thou/mm3	150.00 - 450.00

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Test Name	Results	Units	Bio. Ref. Interval
PROTEIN, TOTAL, SERUM (Spectrophotometry)			
Total Protein	7.00	g/dL	6.00 - 8.00
Albumin	**3.00**	g/dL	3.50 - 5.20
A : G Ratio	**0.75**		0.90 - 2.00
C-REACTIVE PROTEIN; CRP, SERUM (Immunoturbidimetry)	5.00	mg/L	<5.00

Comments

CRP is an acute phase reactant which is used in inflammatory disorders for monitoring course and effect of therapy. It is most useful as an indicator of activity in Rheumatoid arthritis, Rheumatic fever, tissue injury or necrosis and infections. As compared to ESR, CRP shows an earlier rise in inflammatory disorders which begins in 4-6 hrs, the intensity of the rise being higher than ESR and the recovery being earlier than ESR. Unlike ESR, CRP levels are not influenced by hematologic conditions like Anemia, Polycythemia etc.

FERRITIN, SERUM (CLIA)		ng/mL	7.00 - 140.00

Note: Increase in serum ferritin due to inflammatory conditions (Acute phase response) can mask a diagnostically low result

Comments

Serum ferritin appears to be in equilibrium with tissue ferritin and is a good indicator of storage iron in normal subjects and in most disorders. In patients with some hepatocellular diseases, malignancies and inflammatory diseases, serum ferritin is a disproportionately high estimate of storage iron because serum ferritin is an acute phase reactant. In such disorders iron deficiency anemia may exist with a normal serum ferritin concentration. In the presence of inflammation, persons with low serum ferritin are likely to respond to iron therapy.

Increased Levels

- Iron overload - Hemochromatosis, Thalassemia & Sideroblastic anemia
- Malignant conditions - Acute myeloblastic & Lymphoblastic leukemia, Hodgkin's disease & Breast carcinoma
- Inflammatory diseases - Pulmonary infections, Osteomyelitis, Chronic UTI, Rheumatoid arthritis,

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Test Name	Results	Units	Bio. Ref. Interval

SLE, burns

- Acute & Chronic hepatocellular disease

Decreased Levels
Iron deficiency anemia

IRON STUDIES, SERUM (Spectrophotometry)			
Iron	**11.00**	µg/dL	65.00 - 175.00
Total Iron Binding Capacity	**611.00**	µg/dL	250.00 - 425.00
Transferrin Saturation	**1.80**	%	20.00 - 50.00

Comments
Iron is an essential trace mineral element which forms an important component of hemoglobin, metallocompounds and Vitamin A. Deficiency of iron, leads to microcytic hypochromic anemia. The toxic effects of iron are deposition of iron in various organs of the body and hemochromatosis.
Total Iron Binding capacity (TIBC) is a direct measure of the protein Transferrin which transports iron from the gut to storage sites in the bone marrow. In iron deficiency anemia, serum iron is reduced and TIBC increases.
Transferrin Saturation occurs in Idiopathic hemochromatosis and Transfusional hemosiderosis where no unsaturated iron binding capacity is available for iron mobilization. Similar condition is seen in congenital deficiency of Transferrin.

TRANSFERRIN, SERUM (Immunoturbidimetry)	**111.00**	mg/dL	203.00 - 360.00

Note: Pregnancy and use of oral contraceptive cause increase in transferrin levels

Comments
Transferrin is a transport protein which transfers ferric iron from iron stores to bone marrow. In response to short term iron deficiency, transferrin levels rise markedly to twice the normal levels or higher. An elevated level on electrophoresis can have the appearance of a paraprotein in cases of severe iron deficiency. Administration of iron to deficient patients increases the saturation followed by return of transferrin to normal level. Chronic saturation of transferrin occurs in Idiopathic hemachromatosis and Transfusional hemosiderosis. In severe cases of Protein losing nephropathy, transferrin is lost from the circulation in the urine carrying iron with it, thus

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leading to Hypochromic anemia. Simultaneous measurement of transferrin with ferritin helps to differentiate anemia due to iron deficiency and chronic inflammation.

LEAD, BLOOD (AAS)	µg/dL	<25.00

Interpretation

REFERENCE GROUP	REFERENCE RANGE IN ug/dL
Children	<10
Adults	<25
Acceptable for Industrial exposure	<50
Toxicity	>=100

Note

1. Atomic Absorption Spectrometry (AAS) is used to determine the level of heavy/trace metals in biological tissues
2. To assess occupational exposure sample should be collected at the end of the shift on the last day of the work week

Comments

Lead is the most ubiquitous toxic metal detectable in practically all phases of the inert environment and in all biological systems. Industrial exposure to lead is seen in industries manufacturing lead containing paints & ceramic glazes, batteries, water pipes & ammunition. Major exposure of the general population is through food & water. Lead containing toys & paints are a primary source of lead exposure in children. Centre for Disease Control (CDC) recommends universal screening of children from 6 months of age. Acute toxicity is uncommon as compared to chronic toxicity leading to intellectual deficit and lead induced anemias in children.

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Test Name	Results	Units	Bio. Ref. Interval

Dr. Anil Arora
MD (Pathology)
HOD Hemat & Imm - NRL

Dr Himangshu Mazumdar
MD (Biochemistry)
Consultant Biochemist - NRL

Dr. Nimmi Kansal
MD (Biochemistry)
HOD Biochem & IA - NRL

Result/s to follow:
COMPLETE BLOOD COUNT (CBC), FERRITIN, SERUM, LEAD, BLOOD

IMPORTANT INSTRUCTIONS

*Test results released pertain to the specimen submitted.*All test results are dependent on the quality of the sample received by the Laboratory. *Laboratory investigations are only a tool to facilitate in arriving at a diagnosis and should be clinically correlated by the Referring Physician .*Sample repeats are accepted on request of Referring Physician within 7 days post reporting.*Report delivery may be delayed due to unforeseen circumstances. Inconvenience is regretted.*Certain tests may require further testing at additional cost for derivation of exact value. Kindly submit request within 72 hours post reporting.*Test results may show interlaboratory variations.*The Courts/Forum at Delhi shall have exclusive jurisdiction in all disputes/claims concerning the test(s) & or results of test(s).*Test results are not valid for medico legal purposes. *Contact customer care Tel No. +91-11-39885050 for all queries related to test results.