

Patient's Name : Jyotsnaben Shukla

Ref.No. : HL-10446-21

Age/Sex : 70 Years /Female



Reg. Date : 17/09/2021 17:12

Referred by : C/o. Dr At Doorstep

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HAEMOGRAM

EDTA whole Blood

TEST	RESULT	UNIT	BIOLOGICAL REF INTERVAL
HAEMOGLOBIN	: 12.7	gms/dl	12.0 - 16.0
RBC INDICES			
Total R.B.C. Count	: 4.49	millions/cu.mm	3.8 - 5.8
Packed Cell Volume	: 39.9	%	37 - 47
M. C. V.	: 88.9	cu.micron	78 - 96
M. C. H.	: 28.3	picogram	27 - 32
M. C. H. C.	: 31.8	g / dl	30 - 35
R. D. W.	: 12.5	%	11 - 15
TOTAL W. B. C. COUNT	: 8610	/cu.mm	4000 - 11000
DIFFERENTIAL COUNT			
Neutrophils	: 61.8	%	50 - 70
Lymphocytes	: 33.2	%	20 - 40
Eosinophils	: 0.6	%	01 - 04
Monocytes	: 3.9	%	02 - 06
Basophils	: 0.5	%	00 - 01
PLATELET COUNT	: 1.79	Lakh	1.5 - 4.5
E. S. R. (At 1st Hour) (Westergren's method)	: 10	mm	02 - 15

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C - REACTIVE PROTEIN serum

PRINCIPLE : Particle enhanced turbidimetric assay

CONCENTRATION : **1.2 mg / l**

Biological Ref Interval : Less than 6 mg / l

RESULT : **Negative**

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BIOCHEMICAL ANALYSIS (Serum)

APPEARANCE :

TESTS	RESULTS	UNITS	Biological Ref Interval
SERUM URIC ACID method : Enzymatic	3.2	mg / dl	M 3.5 to 7.2 F :2.6 to 6.0

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Rheumatoid arthritis (RA) - Fact file

Rheumatoid arthritis is an autoimmune disease causing chronic inflammation of joints (synovium) with destruction and deformities.

No test results are pathognomic for rheumatoid arthritis , instead diagnosis is made using combination of clinical laboratory and imaging (radiological) criterias.. Potential useful lab investigations in suspected RA includes

Markers of inflammation

1. Erythrocyte Sedimentation Rate (ESR)-

2. C - Reactive Protein (CRP)

Elevated levels are associated with progressive disease activities and correlates well with radiographic destruction of joints

Haematological parameters

3. Complete Blood Count (CBC)

Hypochromic anaemia due to GI blood loss in C/o NSAID and disease modifying antirheumatoid drugs (DMARD)

Thrombocytosis

Leukopenia

Immunological parameters

4. Rheumatoid Factor (RF)

5. Anticyclic Citrullinated Peptide (Anti CCP) antibody

6. Anti Nuclear Antibody (ANA)

7. Anti RA33 antibody

RF (Rheumatoid Factor) assay is the most commonly asked investigation in suspected RA . It is an immunoglobulin IgM class detected against the Fc fragment of IgG that is present in the 70 - 80 % patient of Rheumatoid arthritis .

Sensitivity of test is 70 - 80 % , as it gives negative test results in c/o early RA (Seronegative RA).

Test specificity is very low as false positive results are obtained in

* Hepatitis C with arthritis * SLE * Polymyalgia Rheumatica * Sarcoidosis * Inflammatory bowel disease with arthritis

* Reiter's syndrome * Psoriatic arthritis * Ankylosing Spondylitis * Parvoviral arthropathy * Fibromyalgia

* 1 - 5 % healthy individual

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Due to relative low sensitivity (as a stand alone test) and low specificity of RF assay ,
anti CCP antibodies , a new biomarker is considered more reliable test for the diagnosis of RA
(equally sensitive 70 - 80 % and better specific 96 - 98 %)

How it is used ?

Along with or following RF test in RF positive patient to know the disease course and prognosis
In patient with undifferentiated arthritis (RF negative) whose symptoms are suggestive of RA but do not yet meet the ACR (American College of Rheumatology) criteria for RA

What does the test results mean

Positive for both anti CCP and RF : Very likely having RA and may develop more severe disease
Positive for anti CCP / negative RF : Early RA (Seronegative RA) and will develop RA in future
Negative for anti CCP / positive RF : Clinical sign/symptoms are more vital for definite diagnosis of RA as specificity of RF is very less
Neative for both anti CCP and RF : Very less likely that patient is having RA

Can predict development of RA prior to symptoms onset
In normal population : . First positivity of anti CCP to symptom onset period is app. 0.1 to 13.8 yrs.
with mean of 4.8 yrs . Positive Predictive value is app. 96 %
In " high risk " population (having 2 or more first degree relative with RF positive) : 5 year positive predictive value is app. 65 - 70 % .

Considering the facts , anti CCP antibody with RF (immunological) , CBC / ESR / PLT (haematological) are the most advised lab investigations , along with clinico-radiological correlation for the diagnosis and disease progression

References :

1. Journal of Rheumatology
2. Disease forum

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RHEUMATOID FACTOR (RF / RA)

Principle : Particle enhanced turbidimetry assay

Concentration : 7.2 IU / ML

Normal : Less than 20 IU / ML

Result : **Non-Reactive**

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