P K R JAIN HEALTHCARE INSTITUTE

NASIRPUR, Hissar Road, AMBALA CITY- (Haryana)

A PIONEER DIAGNOSTIC CENTRE

0171-2532620, 8222896961 pkrjainhealthcare@gmail.com

NAME	**: Mrs. SIMRANJEET**		
AGE/ GENDER	: 23 YRS/FEMALE	**PATIENT ID**	: 1652023
COLLECTED BY	:	**REG. NO./LAB NO.**	**: 122410240012**
REFERRED BY	:	**REGISTRATION DATE**	: 24/Oct/2024 10:53 AM
BARCODE NO.	: 12505325	**COLLECTION DATE**	: 24/Oct/2024 11:00AM
CLIENT CODE.	: P.K.R JAIN HEALTHCARE INSTITUTE	**REPORTING DATE**	: 24/Oct/2024 03:32PM
CLIENT ADDRESS	: NASIRPUR, HISSAR ROAD, AMBALA CITY - HARYANA		

HAEMATOLOGY

PROTHROMBIN TIME STUDIES (PT/INR)

Test Name	Value	Unit	Biological Reference interval
PT TEST (PATIENT) *by PHOTO OPTICAL CLOT DETECTION*	12.3	SECS	11.5 - 14.5
PT (CONTROL) *by PHOTO OPTICAL CLOT DETECTION*	12	SECS	
ISI *by PHOTO OPTICAL CLOT DETECTION*	1.1		
INTERNATIONAL NORMALISED RATIO (INR) *by PHOTO OPTICAL CLOT DETECTION*	1.03		0.80 - 1.20
PT INDEX *by PHOTO OPTICAL CLOT DETECTION*	97.56	%	

INTERPRETATION:-

1.INR is the parameter of choice in monitoring adequacy of oral anti-coagulant therapy. Appropiate therapeutic range varies with the disease and treatment intensity.
2. Prolonged INR suggests potential bleeding disorder /bleeding complications
3. Results should be clinically correlated.
4. *Test conducted on Citrated Plasma*

RECOMMENDED THERAPEUTIC RANGE FOR ORAL ANTI-COAGULANT THERAPY (INR)		
INDICATION		**INTERNATIONAL NORMALIZED RATIO (INR)**
Treatment of venous thrombosis	Low Intensity	2.0 - 3.0
Treatment of pulmonary embolism		
Prevention of systemic embolism in tissue heart valves		
Valvular heart disease		
Acute myocardial infarction		
Atrial fibrillation		
Bileaflet mechanical valve in aortic position		
Recurrent embolism	High Intensity	2.5 - 3.5
Mechanical heart valve		

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Test Name	Value	Unit	Biological Reference interval
Antiphospholipid antibodies^{+}			

COMMENTS:

The prothrombin time (PT) and its derived measures of prothrombin ratio (PR) and international normalized ratio (INR) are measures of the efficacy of the extrinsic pathway of coagulation. PT test reflects the adequacy of factors I (fibrinogen), II (prothrombin), V, VII, and X. It is used in conjunction with the activated partial thromboplastin time (aPTT) which measures the intrinsic pathway.

The common causes of prolonged prothrombin time are :

1.Oral Anticoagulant therapy.
2.Liver disease.
3.Vit K. deficiency.
4.Disseminated intra vascular coagulation.
5.Factor 5, 7 , 10 or Prothrombin dificiency

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TEST PERFORMED AT KOS DIAGNOSTIC LAB, AMBALA CANTT.

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HAEMOGLOBIN - HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HB-HPLC)

Test Name	Value	Unit	Biological Reference interval
HAEMOGLOBIN VARIANTS			
HAEMOGLOBIN A0 (ADULT) *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	84.3	%	83.00 - 90.00
HAEMOGLOBIN F (FOETAL) *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	1.6	%	0.00 - 2.0
HAEMOGLOBIN A2 *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	2.2	%	1.50 - 3.70
PEAK 3 *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	5.2	%	< 10.0
OTHERS-NON SPECIFIC *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	ABSENT	%	ABSENT
HAEMOGLOBIN S *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	NOT DETECTED	%	< 0.02
HAEMOGLOBIN D (PUNJAB) *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	NOT DETECTED	%	< 0.02
HAEMOGLOBIN E *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	NOT DETECTED	%	< 0.02
HAEMOGLOBIN C *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	NOT DETECTED	%	< 0.02
UNKNOWN UNIDENTIFIED VARIANTS *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	NOT DETECTED	%	< 0.02
GLYCOSYLATED HAEMOGLOBIN (HbA1c): WHOLE BLOOD *by HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)*	5.3	%	4.0 - 6.4
RED BLOOD CELLS (RBCS) COUNT AND INDICES			
HAEMOGLOBIN (HB) *by AUTOMATED HEMATOLOGY ANALYZER*	**10.4**^{L}	gm/dL	12.0 - 16.0
RED BLOOD CELL (RBC) COUNT *by AUTOMATED HEMATOLOGY ANALYZER*	3.79	Millions/cmm	3.50 - 5.00
PACKED CELL VOLUME (PCV) *by AUTOMATED HEMATOLOGY ANALYZER*	**32.6**^{L}	%	37.0 - 50.0
MEAN CORPUSCULAR VOLUME (MCV) *by AUTOMATED HEMATOLOGY ANALYZER*	86.2	fL	80.0 - 100.0
MEAN CORPUSCULAR HAEMOGLOBIN (MCH) *by AUTOMATED HEMATOLOGY ANALYZER*	27.4	pg	27.0 - 34.0

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Test Name	Value	Unit	Biological Reference interval
MEAN CORPUSCULAR HEMOGLOBIN CONC. (MCHC) *by AUTOMATED HEMATOLOGY ANALYZER*	**31.7**[L]	g/dL	32.0 - 36.0
RED CELL DISTRIBUTION WIDTH (RDW-CV) *by AUTOMATED HEMATOLOGY ANALYZER*	15.1	%	11.00 - 16.00
RED CELL DISTRIBUTION WIDTH (RDW-SD) *by AUTOMATED HEMATOLOGY ANALYZER*	48.3	fL	35.0 - 56.0
OTHERS			
NAKED EYE SINGLE TUBE RED CELL OSMOTIC FRAGILITY TEST *by SINGLE RED CELL OSMOTIC FRAGILITY*	NEGATIVE (-ve)		NEGATIVE (-ve)
MENTZERS INDEX *by CALCULATED*	22.74	RATIO	BETA THALASSEMIA TRAIT: < 13.0 IRON DEFICIENCY ANEMIA: >13.0
INTERPRETATION	THE ABOVE FINDINGS ARE SUGGESTIVE OF NORMAL HAEMOGLOBIN CHROMATOGRAPHIC PATTERN		

INTERPRETATION:

The Thalassemia syndromes, considered the most common genetic disorder worldwide, are a heterogenous group of mandelian disorders, all characterized by a lack of/or decreased synthesis of either the alpha-globin chains (alpha thalassemia) or the beta-globin chains (beta thalassemia) of haemoglobin.

HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC):

1.HAEMOGLOBIN VARIANT ANALYSIS, BLOOD- High Performance liquid chromatography (HPLC) is a fast & accurate method for determining the presence and for quatitation of various types of normal haemoglobin and common abnormal hb variants, including but not limited to Hb S, C, E, D and Beta –thalassemia.
2.The diagnosis of these abnormal haemoglobin should be confirmed by DNA analysis.
3.The method use has a limited role in the diagnosis of alpha thalassemia.
4.Slight elevation in haemoglobin A2 may also occur in hyperthyroidism or when there is deficiency of vitamin b12 or folate and this should be istinguished from inherited elevation of HbA2 in Beta- thalassemia trait.

NAKED EYE SINGLE TUBE RED CELL OSMOTIC FRAGILITY TEST (NESTROFT):

1.It is a screening test to distinguish beta thalassemia trait. Also called as Naked Eye Single Tube Red Cell Osmotic Fragility Test.
2.The test showed a sensitivity of 100%, specificity of 85.47%, a positive predictive value of 66% and a negative predictive value of 100%.
3.A high negative predictive value can reasonably rule out beta thalassemia trait cases. So, it should be adopted as a screening test for beta thalassemia trait, as it is not practical or feasible to employ HbA2 in every case of anemia in childhood.

MENTZERS INDEX:

1.The Mentzer index, helpful in differentiating iron deficiency anemia from beta thalassemia. If a CBC indicates microcytic anemia, the Mentzer index is said to be a method of distinguishing between them.
2.If the index is less than 13, thalassemia is said to be more likely. If the result is greater than 13, then iron-deficiency anemia is said to be more likely.
3.The principle involved is as follows: In iron deficiency, the marrow cannot produce as many RBCs and they are small (microcytic), so the RBC

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Test Name	Value	Unit	Biological Reference interval

count and the MCV will both be low, and as a result, the index will be greater than 13. Conversely, in thalassemia, which is a disorder of globin synthesis, the number of RBC's produced is normal, but the cells are smaller and more fragile. Therefore, the RBC count is normal, but the MCV is low, so the index will be less than 13.

NOTE: In practice, the Mentzer index is not a reliable indicator and should not, by itself, be used to differentiate. In addition, it would be possible for a patient with a microcytic anemia to have both iron deficiency and thalassemia, in which case the index would only suggest iron deficiency.

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Test Name	Value	Unit	Biological Reference interval

ENDOCRINOLOGY

DUAL MARKER MATERNAL SCREENING

DUAL MARKER TEST

PATEINT SPECIFICATIONS

DATE OF BIRTH	02-08-2001		
MATERNAL AGE	23.76	YEARS	
WEIGHT	44	Kg	
DATE OF LMP	14-07-2024		
ETHNIC ORIGIN	ASIAN		ASIAN
H/O IVF	ABSENT		
H/O SMOKING	ABSENT		
H/O INSULIN DEPENDANT DIABETES	ABSENT		
H/O TRISOMY 21 SCREENING	ABSENT		

ULTRA SOUND SCAN DETAILS

DATE OF ULTRASOUND *by ULTRASOUND SCAN*	21-10-2024		
METHOD FOR GESTATION AGE ESTIMATION *by ULTRASOUND SCAN*	ULTRASOUND SCAN DETAILS		
FOETUS (NOS) *by ULTRASOUND SCAN*	1		
GA ON THE DAY OF SAMPLE COLLECTION *by ULTRASOUND SCAN*	12.3	WEEKS	
CROWN RUMP LENGTH (CRL) *by ULTRASOUND SCAN*	53.2	mm	38 - 84
GESTATIONAL AGE BY CRL *by ULTRASOUND SCAN*	12.3		
NUCHAL TRANSLUCENCY (NT) *by ULTRASOUND SCAN*	1.1	mm	0.1 - 6.0
NUCHAL TRANSLUCENCY (NT) MOM *by ULTRASOUND SCAN*	0.78		

DUAL MARKER - BIOCHEMICAL MARKERS

PREGNANCY ASSOCIATED PLASMA	4983.286	mIU/L	

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Test Name	Value	Unit	Biological Reference interval
PROTEIN A (PAPP-A) *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*			
BETA HCG - FREE: SERUM *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	11.652	ng/mL	
MULTIPLE OF MEDIAN (MOM) VALUES			
PAPP-A MOM *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	0.78		
BETA HCG - FREE MOM *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	0.18		
TRISOMY 21 SCREENING (DOWNS SYNDROME) RISK ASSESSMENT			
TRISOMY 21 SCREENING RISK RESULT *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	NEGATIVE (-ve)		NEGATIVE (-ve)
TRISOMY 21 AGE RISK *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	1:1434 NEGATIVE (-ve)		
TRISOMY 21 BIOCHEMICAL RISK *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	< 1:10000 NEGATIVE (-ve)		RISK CUT OFF 1:150
TRISOMY 21 COMBINED RISK (BIOCHEMICAL + NT) *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	< 1:10000 NEGATIVE (-ve)		RISK CUT OFF 1:150
TRISOMY 18 SCREENING RISK ASSESSMENT			
TRISOMY 18 AGE RISK *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	NEGATIVE (-ve)		
TRISOMY 13/18 SCREENING RISK *by CLIA (CHEMILUMINESCENCE IMMUNOASSAY)*	< 1:10000 NEGATIVE (-ve)		RISK CUT OFF 1:300

INTERPRETATION:

1.Double marker test (maternal serum screen – first trimester) is a prenatal test to screen for Trisomy 21 (down's syndrome) and Trisomy 13/18 during gestational period 8 – 13 weeks.

2.Besides the biochemical markers tested – maternal pregnancy associated plasma protein a (papp-a) & maternal free beta hcg , the risk is calculated combining usg measurement of nuchat translucency (nt), gestational age at the time of sample with other maternal factors as age, weight, h/o diabetes, smoking, race, twin pregnancies, use of assissted reproductive technologies (IVF).

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Test Name	Value	Unit	Biological Reference interval

NOTE:

1.This is only screening test based purely on statistical analysis which is further based on the data submitted; hence the correctness of data is vital for risk analysis.

2.A negative screen indicates a lower probability of having a baby with trisomy 21 ,trisomy 18 and neural tube defects, but does not completely exclude the possibility.

3.A positive screen on the contrary only indicates a higher probability of having a baby with trisomy 21, trisomy 18 and neural tube defects, and needs confirmation by cytogenetic studies and/or level ii scan.

4.The detection rate by this test is about 60%, with 5% false positive rate when assesment is done for only biochemical parameters and increase to 85 % with 5% false positive rate when both biochemical parameters and nt are combined for analysis.

5.Correlation with patient history, family history and detailed USG scan is required to decide further course of action in cases who have high risk statistically calculated by this test.

*** End Of Report ***

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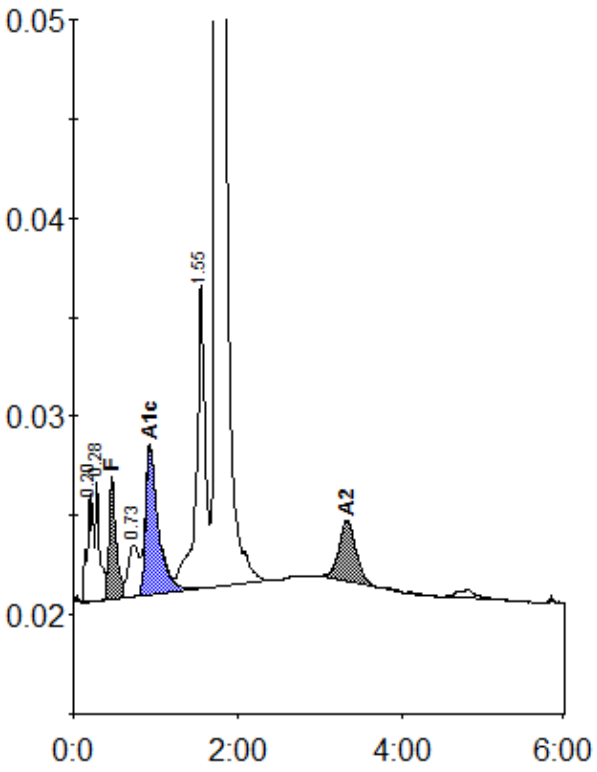
Patient report

Bio-Rad	DATE: 10/24/2024
D-10	TIME: 04:16 PM
S/N: #DJ6F040603	Software version: 4.30-2
Sample ID:	12505325
Injection date	10/24/2024 04:02 PM
Injection #: 7	Method: HbA2/F
Rack #: ---	Rack position: 7



Peak table - ID: 12505325

Peak	R.time	Height	Area	Area %
A1a	0.20	5469	28966	1.3
A1b	0.28	6000	21605	1.0
F	0.47	6174	35644	1.6
LA1c/CHb-1	0.73	2603	23607	1.1
A1c	0.93	7419	79561	5.3
P3	1.55	15362	116271	5.2
A0	1.74	434762	1877648	84.3
A2	3.33	3062	44617	2.2
Total Area:	2227918			

Concentration:	%
F	1.6
A1c	5.3
A2	2.2