
DECEMBER 2019
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DEPARTMENT OF PATHOLOGY
VMMC AND SAFDARJUNG HOSPITAL
NEW DELHI – 110029

BONE MARROW ASPIRATE REPORT

PATIENT NAME	pragyan
AGE/SEX	11years/M
PATH NO	BM 163/22
MRD NO	65095
CHIEF OF CLINICAL UNIT	Dr Amitabh
WARD	20
SPECIMEN TYPE	Peripheral blood ,Bone Marrow aspirate slides, bone marrow biopsy
Specimen received on	08/08/22
Specimen grosssed by	Dr Rakesh
REPORTED ON - 08/08/22 & 16/08/22	Hb: 7.1g/dl RBC: 2.37million/cumm TLC: 2,200/cumm Platelet: 28,000/cumm DLC: Neutrophil $_{89}$Lymphocyte$_{11}$ **Reticulocyte count - <0.1**

Peripheral Smear:
Smear shows pancytopenia with absolute neutropenia
DLC – Lymphocytes 89%
Neutrophils 11%
RBCs are predominantly normocytic and normochromic
WBCs shows relative lymphocytosis
Platelets are moderately reduced in number (50,000/mm^3)
No haemoparasites or atypical cell identified in the smears examined.

Bone Marrow Aspirate:
Received 5 bone marrow aspirate smears only.
Microscopically, the smears are markedly hemodiluted and no marrow particles identified. No immature cells of erythroid, myeloid and megakaryocytic series identified. No atypical cells identified.
Bone marrow aspirate smears are inadequate for opinion.

Bone Marrow Biopsy

Gross- Received 3 grey white linear cores varying in the length from 0.4 to 1 cm.

Microscoipcally - Bone marrow biopsy is adequate for evaluation and is showing bony trabeculae with > 10 inter-trabecular spaces which are **markedly hypocellular for age** (cellularity equivalent to 10%) along with procedural haemorrhage. Trilineage hematopoiesis is suppressed. Cellularity comprises predominantly of plasma cells, lymphocytes and histiocytes.No megakaryoctyes seen in the smear examined.

No haemoparasites, evidence of haemophagocytosis, granuloma or atypical cell identified in the sections examined.

Impression – Hypoplastic marrow, possibility of aplastic anemia is suggested
Advice- clinical correlation

Dr Saba (SR) Dr Priyanka Singh Dr Chintamani Pathak

2023/01/14 12:27:55 WB

Sample No P-1
Patient ID PH-756/23
Name PRAGATI
Sample Comment CBC PS WD-18
Date & Time of collection Received

Rack: 2
Age: 11
Ward:

Position: 8
Doctor:
Sex: Female
Type of Sample : EDTA

Positive
Diff, Morphn, Count

WBC	1.54 -	[10^3/uL]	WBC	(4.50 -	13.50)
RBC	2.95 -	[10^6/uL]	RBC	(4.00 -	5.20)
HGB	8.6 -	[g/dL]	HGB	(11.5 -	15.5)
HCT	23.9 -	[%]	HCT	(35.0 -	45.0)
MCV	81.0	[fL]	MCV	(77.0 -	95.0)
MCH	29.2	[pg]	MCH	(25.0 -	33.0)
MCHC	36.0	[g/dL]	MCHC	(32.0 -	38.0)
PLT	25 *	[10^3/uL]	PLT	(150 -	450)
RDW-SD	43.9	[fL]	RDW-SD	(37.0 -	54.0)
RDW-CV	15.0	[%]	RDW-CV	(11.0 -	16.0)
PDW	----	[fL]	PDW	(9.0 -	17.0)
MPV	----	[fL]	MPV	(9.0 -	13.0)
P-LCR	----	[%]	P-LCR	(13.0 -	43.0)
PCT	----	[%]	PCT	(0.17 -	0.35)
NRBC	0.00	[10^3/uL]	0.0	[%]		
NEUT	0.16 *	[10^3/uL]	10.4 *	[%]	NEUT%	(33.0 - 61.0)
LYMPH	1.34 *	[10^3/uL]	87.0 *	[%]	LYMPH%	(28.0 - 48.0)
MONO	0.04 *	[10^3/uL]	2.6 *	[%]	MONO%	(2.0 - 7.0)
EO	0.00	[10^3/uL]	0.0	[%]	EO%	(0.0 - 6.0)
BASO	0.00	[10^3/uL]	0.0	[%]	BASO%	(0.0 - 1.0)
IG	0.00 *	[10^3/uL]	0.0 *	[%]		
RET	0.15	[%]				
IRF	1.8	[%]				
LFR	98.2	[%]				
MFR	1.8	[%]				
HFR	0.0	[%]				
RET-He	29.1	[pg]				
IPF		[%]				
MicroR	6.3	[%]				
MacroR	2.8	[%]				

PS RS

RET

WNR

RBC

WDF

PLT-F

PLT

WBC IP Message

RBC IP Message
Anemia

PLT IP Message
PLT Abn Distribution
Thrombocytopenia
PLT Clumps?

WARD REPORT

XN series

2022/08/11 11:40:09 WB

Rack: 1 Position: 4

Sample No.: P-4
Patient ID: PH-11178/22
Name: PRAGATI
Sample Comment: WD-20 PS
Date & Time of collection Received

Age: 11
Ward:

Doctor:
Sex: Female
Type of Sample : EDTA

RET-9:16
11/08/22

Positive

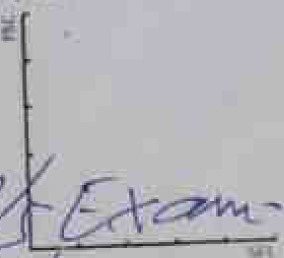
Diff. Morph. Count

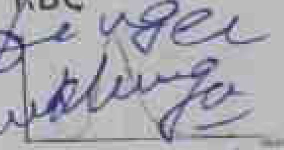
WBC	1.91 -	[10^3/uL]	
RBC	2.20 -	[10^6/uL]	
HGB	6.9 -	[g/dL]	
HCT	20.4 -	[%]	
MCV	92.7	[fL]	
MCH	31.4	[pg]	
MCHC	33.8	[g/dL]	
PLT	36 -	[10^3/uL]	
RDW-SD	58.1 +	[fL]	
RDW-CV	18.1 +	[%]	
PDW	18.9 *	[fL]	
MPV	13.4 *	[fL]	
P-LCR	51.1 *	[%]	
PCT	0.05 *	[%]	
NRBC	0.01	[10^3/uL]	0.5 [%]
NEUT	0.26 *	[10^3/uL]	13.7 * [%]
LYMPH	1.54 *	[10^3/uL]	80.6 * [%]
MONO	0.10 *	[10^3/uL]	5.2 * [%]
EO	0.00	[10^3/uL]	0.0 [%]
BASO	0.01	[10^3/uL]	0.5 [%]
IG	0.01 *	[10^3/uL]	0.5 * [%]
RET	0.25	[%]	
IRF	0.0	[%]	
LFR	100.0	[%]	
MFR	0.0	[%]	
HFR	0.0	[%]	
RET-He	34.1	[pg]	
IPF		[%]	
MicroR	3.5	[%]	
MacroR	6.1	[%]	

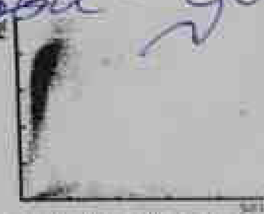
WBC	(4.50 - 13.50)
RBC	(4.00 - 5.20)
HGB	(11.5 - 15.5)
HCT	(35.0 - 45.0)
MCV	(77.0 - 95.0)
MCH	(25.0 - 33.0)
MCHC	(32.0 - 38.0)
PLT	(150 - 450)
RDW-SD	(37.0 - 54.0)
RDW-CV	(11.0 - 16.0)
PDW	(9.0 - 17.0)
MPV	(9.0 - 13.0)
P-LCR	(13.0 - 43.0)
PCT	(0.17 - 0.35)
NEUT%	(33.0 - 61.0)
LYMPH%	(28.0 - 48.0)
MONO%	(2.0 - 7.0)
EO%	(0.0 - 6.0)
BASO%	(0.0 - 1.0)

WNR


WDF


PLT-F


RBC


RET


PLT


Attach H file

- Also Repeat P/S Exam from fresh finger prick blood
[illegible] 12/8/22

...
WBC IP Message

RBC IP Message
Anemia

PLT IP Message
PLT Abn Distribution
Thrombocytopenia
Giant Platelet?

PS Exam

- RBCs → NC/NC
- WBCs → Led predom. lymphocytes
- DLC → As mentioned
- Plat → Reduced as mentioned

Methodology

Haemoglobin- SLS haemoglobin Method
RBC & PLT- Electric Impedance Method
WBC- Fluorescence Flow Cytometry
HCT- Pulse Height Detection

ESR-QMS

00-22 2022/08/11 11:49 1/1

[illegible signature]

XN series

Sample NO: P-6
Patient ID: H-756/23
Name: PRAGATI
Sample Comment: CBC PS WD-21 Received
Date & Time of collection

Rack: 1
Age: 11
Ward:

Position: 6
Doctor:
Sex: Female
Type of Sample : EDTA

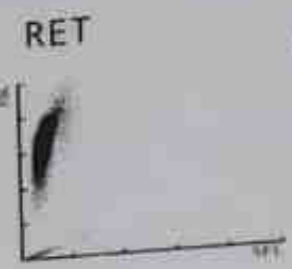
2023/01/17 13:03:30 WB

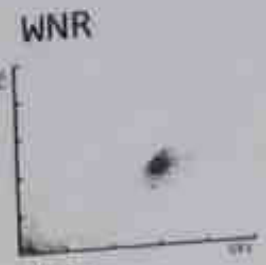
WARD REPORT

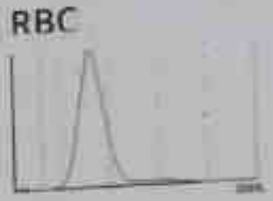
Positive

Diff. Morph. Count

WBC	1.83 -	[10^3/uL]	WBC	(4.50 -	13.50)
RBC	3.19 -	[10^6/uL]	RBC	(4.00 -	5.20)
HGB	9.2 -	[g/dL]	HGB	(11.5 -	15.5)
HCT	26.5 -	[%]	HCT	(35.0 -	45.0)
MCV	83.1	[fL]	MCV	(77.0 -	95.0)
MCH	28.8	[pg]	MCH	(25.0 -	33.0)
MCHC	34.7	[g/dL]	MCHC	(32.0 -	38.0)
PLT	24 -	[10^3/uL]	PLT	(150 -	450)
RDW-SD	42.5	[fL]	RDW-SD	(37.0 -	54.0)
RDW-CV	14.1	[%]	RDW-CV	(11.0 -	16.0)
PDW	9.2	[fL]	PDW	(9.0 -	17.0)
MPV	9.6	[fL]	MPV	(9.0 -	13.0)
P-LCR	21.6	[%]	P-LCR	(13.0 -	43.0)
PCT	0.02 -	[%]	PCT	(0.17 -	0.35)
NRBC	0.01	[10^3/uL]	0.5	[%]	
NEUT	0.10 *	[10^3/uL]	5.5 *	[%]	NEUT% (33.0 - 61.0)
LYMPH	1.68 *	[10^3/uL]	91.8 *	[%]	LYMPH% (28.0 - 48.0)
MONO	0.04 *	[10^3/uL]	2.2 *	[%]	MONO% (2.0 - 7.0)
EO	0.01	[10^3/uL]	0.5	[%]	EO% (0.0 - 6.0)
BASO	0.00	[10^3/uL]	0.0	[%]	BASO% (0.0 - 1.0)
IG	0.00 *	[10^3/uL]	0.0 *	[%]	
RET	0.05	[%]			
IRF	0.0	[%]			
LFR	100.0	[%]			
MFR	0.0	[%]			
HFR	0.0	[%]			
RET-He	----	[pg]			
IPF		[%]			
MicroR	4.4	[%]			
MacroR	3.0	[%]			







RBC - normocytic normochromic

WBC - ~~de~~ reduced count, predominantly lymphocytes

RBC - as mentioned

Platelets - reduced - as mentioned.

Adv: Regular follow up with CBC-PS, platelet count & retic count

WBC IP Message
...

RBC IP Message
Anemia

PLT IP Message
Thrombocytopenia

SLIDE CLEANING
SMEAR MAKING
SMEAR NUMBERING
SMEAR STAINING

08-22 2023/01/17 13:06 1/1

XN series 0

Sample No. P-6
Patient ID: H-756/23
Name: PRAGATI
Sample Comment: CBC PS WD-21
Date & Time of collection Received

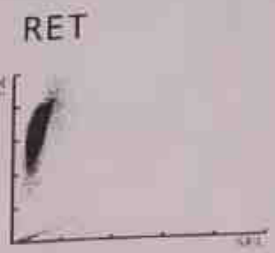
Rack: 1 Position: 6 2023/01/17 13:03:30 WB
Age: 11 Doctor:
Ward: Sex: Female
Type of Sample : EDTA

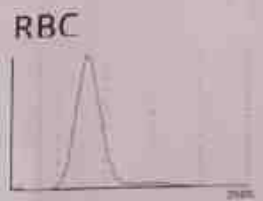
WARD REPORT

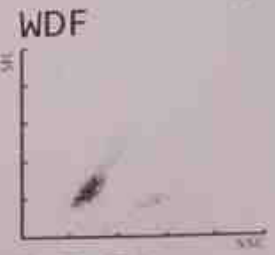
Positive

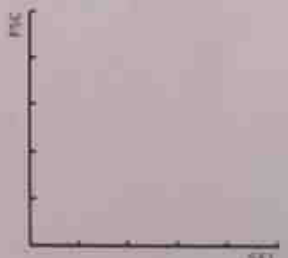
Diff. Morph. Count

WBC	1.83	- [10^3/uL]	WBC	(4.50 -	13.50)	
RBC	3.19	- [10^6/uL]	RBC	(4.00 -	5.20)	
HGB	9.2	- [g/dL]	HGB	(11.5 -	15.5)	
HCT	26.5	- [%]	HCT	(35.0 -	45.0)	
MCV	83.1	[fL]	MCV	(77.0 -	95.0)	
MCH	28.8	[pg]	MCH	(25.0 -	33.0)	
MCHC	34.7	[g/dL]	MCHC	(32.0 -	38.0)	
PLT	24	- [10^3/uL]	PLT	(150 -	450)	
RDW-SD	42.5	[fL]	RDW-SD	(37.0 -	54.0)	
RDW-CV	14.1	[%]	RDW-CV	(11.0 -	16.0)	
PDW	9.2	[fL]	PDW	(9.0 -	17.0)	
MPV	9.6	[fL]	MPV	(9.0 -	13.0)	
P-LCR	21.6	[%]	P-LCR	(13.0 -	43.0)	
PCT	0.02	- [%]	PCT	(0.17 -	0.35)	
NRBC	0.01	[10^3/uL]	0.5	[%]		
NEUT	0.10 *	[10^3/uL]	5.5 *	[%]	NEUT% (33.0 -	61.0)
LYMPH	1.68 *	[10^3/uL]	91.8 *	[%]	LYMPH% (28.0 -	48.0)
MONO	0.04 *	[10^3/uL]	2.2 *	[%]	MONO% (2.0 -	7.0)
EO	0.01	[10^3/uL]	0.5	[%]	EO% (0.0 -	6.0)
BASO	0.00	[10^3/uL]	0.0	[%]	BASO% (0.0 -	1.0)
IG	0.00 *	[10^3/uL]	0.0 *	[%]		
RET	0.05	[%]				
IRF	0.0	[%]				
LFR	100.0	[%]				
MFR	0.0	[%]				
HFR	0.0	[%]				
RET-He	----	[pg]				
IPF		[%]				
MicroR	4.4	[%]				
MacroR	3.0	[%]				









RBC - normocytic normochromic

WBC - reduced count, predominantly lymphocytes

PLT - as mentioned

Platelets - reduced - as mentioned.

Adv: Regular follow up with CBC-PS, platelet count & retic count

WBC IP Message
...

RBC IP Message
Anemia

PLT IP Message
Thrombocytopenia

SLIDE CLEANING.....
SMEAR MAKING.....
SMEAR NUMBERING.....
SMEAR STAINING.....
SLIDE QUALITY.....

00-22 2023/01/17 13:06 1/1

Name of Patient	: MS. PRAGATI		
Age / Sex	: 11 Y /F	Lab No:	: 172815714
Referred by	: DR.H. SINGH	Collection date	: 18.01.2023
Reporting centre	: YUSUF SARAI-LAB	Receiving date	: 19.01.2023
		Reporting date	: 28.01.2023

- Mutation analysis for other disorders that have some clinical features in common with FA and are associated with some form of chromosome instability.

Equivocal:

- Skin fibroblast testing should be performed to rule out the mosaicism.
- Mutation analysis for condition other than FA that manifests with increased chromosomal breakage such as Nijmegen breakage syndrome, ataxia-telangiectasia, ataxia-telangiectasia-like disorder, DNA ligase 4 syndrome, Seckel syndrome1, Bloom syndrome, dyskeratosis congenita, Roberts syndrome, Warsaw breakage syndrome, Cornelia de Lange syndrome, or FAN1 deficiency.

Comments: Fanconi's anaemia is one of the Chromosomal Instability Syndromes characterized by chromosomal breakages due to a deficient DNA repair system. The breakages appear in the form of chromatid gaps and reunion give rise to chromosomal radial formations. The test assay is based on the observation of increased breakages and radial formations in patients as opposed to sex and age matched controls because the patient's blood cells are hypersensitive to Mitomycin C.

References:

- Mayo Clin Proc 1997; 72: 579-580.
- Fanconi Anemia: Guidelines for Diagnostic and Management, 4th Edition, 2014.

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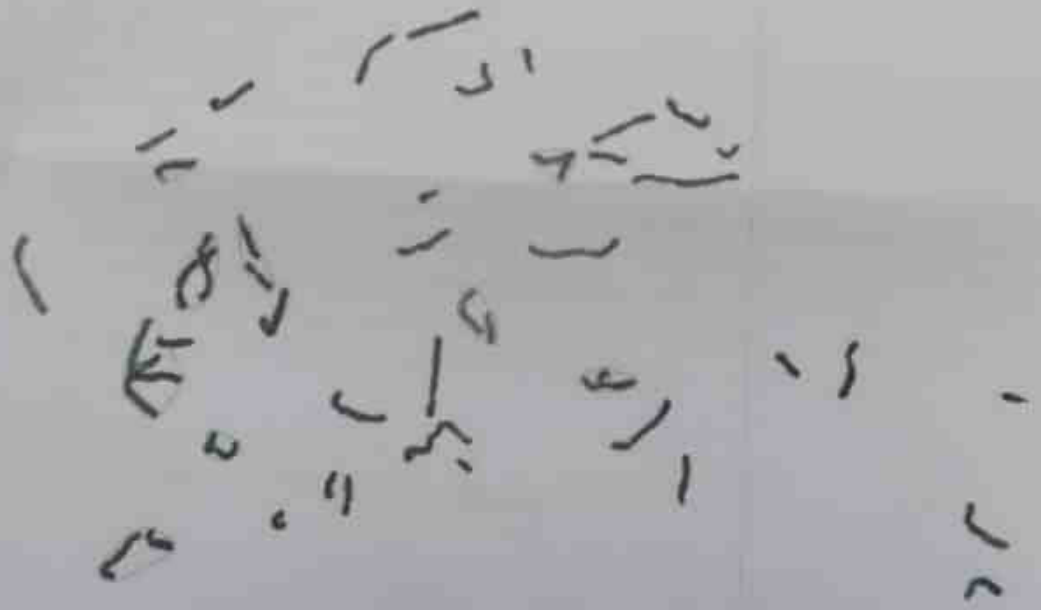
Name of Patient	: MS. PRAGATI		
Age / Sex	: 11 Y /F	Lab No.	: 172815714
Referred by	: DR.H. SINGH	Collection date	: 18.01.2023
Reporting centre	: YUSUF SARAI-LAB	Receiving date	: 19.01.2023
		Reporting date	: 28.01.2023

Note: The patient is not sensitive for Mitomycin C; therefore, these results must be interpreted in the light of the clinical features. Please see interpretation.



Interpretation of chromosome breakage test results*:

Sensitive to mitomycin C:
Identify disease-causing genetic mutation(s) using the molecular methods.
Not sensitive to mitomycin C:
If clinical evidence of FA is weak, no further studies are needed. But, If there is strong clinical suspicion for FA

- Skin fibroblast testing should be performed to rule out the possibility of mosaicism.