

۱۴۰۲/۰۳/۲۳

برای مقایسه و ارزیابی اختلاف نتایج WBC, RBC, Hb, HcT و Plt بیماران بین دو دستگاه Mindray BC-5800 و Sysmex KX-21N ۵ نمونه بیمار با هر دو دستگاه انجام شد که نتایج این برنامه براساس آزمون T جفت نمونه بین ۵ نمونه بیمار به شرح زیر است:

الف) WBC

1. Input Data

	A= Mindray	B= Sysmex	D%
1	6.45	6.50	0.77
2	7.76	7.80	0.51
3	9.07	8.40	-7.39
4	11.25	11.20	-0.44
5	5.22	5.20	-0.38
TAE			-1.39

$$mTEa = \left(\frac{2 + \sqrt{n}}{3\sqrt{n}} \right) TEa \Rightarrow \left(\frac{2 + 2.24}{3 * 2.24} \right) * 15 (CLIA) = 9.46$$

$$TAE (-1.39) < mTEa (9.46)$$

2. Analysis Results

Method	t-Paired Test
Comparative Method	Column A
Test Method	Column B
Count	5
tail	2
Error Level	5%
Mean A	7.95
Mean B	7.82
Bias	-0.13
SDd	0.30
SEM	0.14
t-Statistic	-0.95
t-Critical	2.78
Result	Not Significant

ب) RBC

1. Input Data

	A= Mindray	B= Sysmex	D%
1	4.99	4.95	-0.80
2	6.18	6.10	-1.29
3	5.14	5.09	-0.97
4	4.81	4.75	-1.25
5	4.78	4.79	0.21
TAE			-0.82

$$mTEa = \left(\frac{2 + \sqrt{n}}{3\sqrt{n}} \right) TEa \Rightarrow \left(\frac{2 + 2.24}{3 * 2.24} \right) * 6 (CLIA) = 3.79$$

$$TAE (-0.82) < mTEa (3.79)$$

2. Analysis Results

Method	t-Paired Test
Comparative Method	Column A
Test Method	Column B
Count	5
tail	2
Error Level	5%
Mean A	5.18
Mean B	5.14
Bias	-0.04
SDd	0.03
SEM	0.02
t-Statistic	-2.93
t-Critical	2.78
Result	Significant

پ) Hb

1. Input Data

	A= Mindray	B= Sysmex	D%
1	14.2	14.2	0.00
2	17.2	17.4	1.16
3	13.9	13.8	-0.72
4	15.0	15.0	0.00
5	14.1	13.7	-2.84
TAE			-0.48

$$mTEa = \left(\frac{2 + \sqrt{n}}{3\sqrt{n}} \right) TEa \Rightarrow \left(\frac{2 + 2.24}{3 * 2.24} \right) * 7 (CLIA) = 4.41$$

$$TAE (-0.48) < mTEa (4.41)$$

2. Analysis Results

Method	t-Paired Test
Comparative Method	Column A
Test Method	Column B
Count	5
tail	2
Error Level	5%
Mean A	14.88
Mean B	14.82
Bias	-0.06
SDd	0.22
SEM	0.10
t-Statistic	-0.61
t-Critical	2.78
Result	Not Significant

1. Input Data

	A= Mindray	B= Sysmex	D%
1	43.9	41.6	-5.24
2	43.5	42.0	-3.45
3	52.5	50.1	-4.57
4	43.2	41.8	-3.24
5	41.7	40.9	-1.92
TAE			-3.68

$$mTEa = \left(\frac{2 + \sqrt{n}}{3\sqrt{n}} \right) TEa \Rightarrow \left(\frac{2 + 2.24}{3 * 2.24} \right) * 6 (CLIA) = 3.79$$

$$TAE (-3.68) < mTEa (3.79)$$

2. Analysis Results

Method	t-Paired Test
Comparative Method	Column A
Test Method	Column B
Count	5
tail	2
Error Level	5%
Mean A	44.96
Mean B	43.28
Bias	-1.68
SDd	0.67
SEM	0.30
t-Statistic	-5.62
t-Critical	2.78
Result	Significant

1. Input Data

	A= Mindray	B= Sysmex	D%
1	269	281	4.46
2	258	267	3.49
3	253	194	-23.32
4	241	231	-4.15
5	234	231	-1.28
TAE			-4.16

$$mTEa = \left(\frac{2 + \sqrt{n}}{3\sqrt{n}} \right) TEa \Rightarrow \left(\frac{2 + 2.24}{3 * 2.24} \right) * 25 (CLIA) = 16.91$$

$$TAE (-4.16) < mTEa (16.91)$$

2. Analysis Results

Method	t-Paired Test
Comparative Method	Column A
Test Method	Column B
Count	5
tail	2
Error Level	5%
Mean A	251.00
Mean B	240.80
Bias	-10.20
SDd	28.70
SEM	12.84
t-Statistic	-0.79
t-Critical	2.78
Result	Not Significant

بر اساس نتایج ارزیابی‌ها، اختلاف معنادار نبوده و نتایج مورد تایید است.

مدیر کیفیت:

مسئول فنی:

کارشناس فنی:

مسئول کنترل کیفیت:

RASAD PATHOBIOLOGY & GENETIC LABO

Tel : 71365 Add : Tehran - Resalat Sq

No. 2594
Date 2002/03/14
Time
Mode WB

Mindray BC-5800 (Full diff, Flowcytometry, Laser Light Scattering, C

Name: زینب شکری زاده

Age: 5

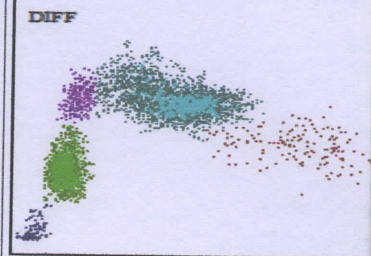
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Gender: Female

Sample ID:

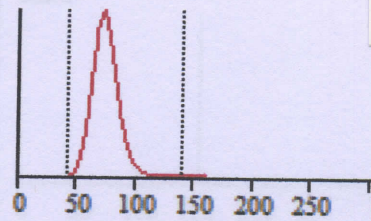
Parameter	Result	Unit	Ref.range
WBC	6.45	10 ³ /uL	4.00-11.00
NEU#	3.87	10 ³ /uL	2.00-7.00
LYM#	2.04	10 ³ /uL	0.80-4.00
MON#	0.30	10 ³ /uL	0.12-1.20
EOS#	0.20	10 ³ /uL	0.02-0.50
BAS#	0.04	10 ³ /uL	0.00-0.10
NEU%	59.9	%	-
LYM%	31.7	%	20.0-40.0
MON%	4.7	%	3.0-12.0
EOS%	3.1	%	0.5-6.0
BAS%	0.6	%	0.0-1.0
RBC	4.99	10 ⁶ /uL	3.50-5.50
HGB	14.2	g/dL	11.0-16.0
HCT	43.2	%	37-47
MCV	86.6	fL	80.0-100.0
MCH	28.5	pg	27.0-34.0
MCHC	32.9	g/dL	32.0-38.0
RDW-CV	13.0	%	11-14.5
RDW-SD	43.0	fL	35.0-56.0
PLT	269	10 ³ /uL	150-450
MPV	7.6	fL	6.5-12.0
PDW	15.5		9.0-17.0
PCT	0.204	%	0.108-0.282
PLCC	48	10 ⁹ /L	30-90
PLCR	18.0	%	11.0-45.0
ALY#	0.00	10 ³ /uL	0.00-0.20
ALY%	0.0	%	0.0-2.0

Histogr

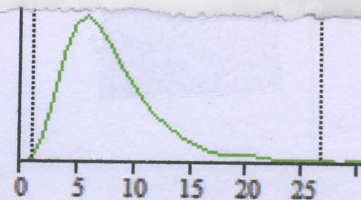


Pink: Mono. Red: Eos.
Green: Lym. Blue: Neut. + Baso

RBC



RBC Distribution



PLT Distribution

WBC Flag
Imm Granulocytes?

RBC Flag
PLT Flag

Comments

RBC Morphology

WBC Morphology

Normal	Acanthocyte	Band
Anisocytosis	Burr.cell	Metamyelocyte
Poikilocytosis	Tear drop RBC	Myelocyte
Microcytosis	Sickle cell	
Macrocytosis	Bite cell	Blast
Macro Ovalocyte	Blister cell	Lymph variant form
Hypochromia	Schistocyte	Nrbc/100wbc
Polychromasia	Rouleaux form.	Hypersegmented neutrophils
Ovalocyte	Howell-Jolly body	Toxic Granulation
Elliptocyte	Baso stip.	Dohle bodies
Target cell	Pappenheimer	CVN
Spherocyte		Giant Platelets

ALY: Atypical Lymphocyte
LIC: Large Immature cell
P-LCC: Platelet Large Cell Count
P-LCR: Platelet Large Cell Rate

RDW:Red Distribution Width, MPV:Mean Platelete Volume, PCT:Plateletcrit, SD:Standard

Deviation, CV:Coefficient Variation, PDW:platelet Distribution Width

LAB Director

RASAD PATHOBIOLOGY & GENETIC LABO

Tel : 71365 Add : Tehran - Resalat Sq

Mindray BC-5800 (Full diff, Flowcytometry, Laser Light Scattering, C

No. 2595
Date 2023/06/13
Time 14
Mode WB

Name: محمدجواد باقي پور

Age:

Test Time: 06/13/2023 1:39 PM

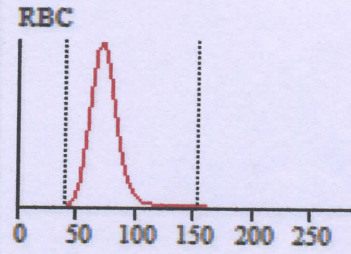
Gender: Male

Sample ID:

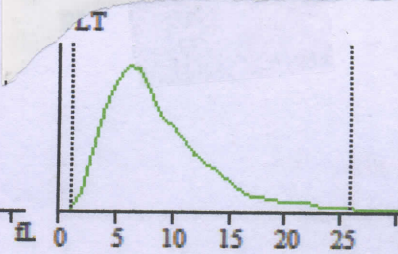
Parameter	Result	Unit	Ref.range
WBC	7.76	10 ³ /uL	4.00-11.00
NEU#	4.71	10 ³ /uL	2.00-7.00
LYM#	2.46	10 ³ /uL	0.80-4.00
MON#	0.39	10 ³ /uL	0.12-1.20
EOS#	0.16	10 ³ /uL	0.02-0.50
BAS#	0.04	10 ³ /uL	0.00-0.10
NEU%	60.7		-
LYM%	31.7	%	20.0-40.0
MON%	5.0	%	3.0-12.0
EOS%	2.1	%	0.5-6.0
BAS%	0.5	%	0.0-1.0
RBC	H 6.18	10 ⁶ /uL	3.50-5.50
HGB	H 17.2	g/dL	11.0-16.0
HCT	H 52.5	%	42-52
MCV	85.0	fL	80.0-100.0
MCH	27.8	pg	27.0-34.0
MCHC	32.8	g/dL	32.0-38.0
RDW-CV	13.6	%	11-14.5
RDW-SD	44.3	fL	35.0-56.0
PLT	258	10 ³ /uL	150-450
MPV	8.3	fL	6.5-12.0
PDW	15.7		9.0-17.0
PCT	0.214	%	0.108-0.282
PLCC	63	10 ⁹ /L	30-90
PLCR	24.3	%	11.0-45.0
ALY#	0.03	10 ³ /uL	0.00-0.20
ALY%	0.4	%	0.0-2.0



Pink: Mono. Red: Eos.
Green: Lym. Blue: Neut. + Bas



RBC Distribution



PLT Distribution

WBC Flag

RBC Flag
PLT Flag

Comments

RBC Morphology

WBC Morphology

ALY: Atypical Lymphocyte
LIC: Large Immature cell
P-LCC: Platelet Large Cell Count
P-LCR: Platelet Large Cell Rate

Normal	
Anisocytosis	
Poikilocytosis	
Microcytosis	
Macrocytosis	
Macro Ovalocyte	
Hypochromia	
Polychromasia	
Ovalocyte	
Elliptocyte	
Target cell	
Spherocyte	

Acanthocyte	
Burr.cell	
Tear drop RBC	
Sickle cell	
Bite cell	
Blister cell	
Schistocyte	
Rouleaux form.	
Howell-Jolly body	
Baso stip.	
Pappenheimer	

Band	
Metamyelocyte	
Myelocyte	
Blast	
Lymph variant form	
Nrbc/100wbc	
Hypersegmented neutrophils	
Toxic Granulation	
Dohle bodies	
CVN	
Giant Platelets	

RDW:Red Distribution Width, MPV:Mean Platelete Volume , PCT:Plateletcrit, SD:Standard

Deviation, CV:Coefficient Variation , PDW:platelet Distribution Width

LAB Director

RASAD PATHOBIOLOGY & GENETIC LABO

Tel : 71365 Add : Tehran - Resalat Sq

Mindray BC-5800 (Full diff, Flowcytometry, Laser Light Scattering, C

No. 2596
Date 2002/03
Time 14
Mode WB

Name: کیمیا ستار

Age:

Test Time: 06/13/2023 1:40 PM

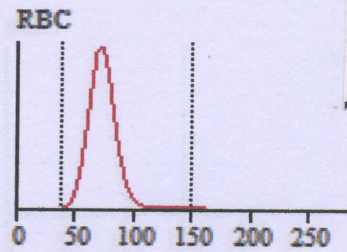
Gender: Female

Sample ID

Parameter	Result	Unit	Ref.range
WBC	9.07	10 ³ /uL	4.00-11.00
NEU#	4.98	10 ³ /uL	2.00-7.00
LYM#	3.46	10 ³ /uL	0.80-4.00
MON#	0.50	10 ³ /uL	0.12-1.20
EOS#	0.08	10 ³ /uL	0.02-0.50
BAS#	0.05	10 ³ /uL	0.00-0.10
NEU%	54.8	%	-
LYM%	38.2	%	20.0-40.0
MON%	5.5	%	3.0-12.0
EOS%	0.9	%	0.5-6.0
BAS%	0.6	%	0.0-1.0
RBC	5.14	10 ⁶ /uL	3.50-5.50
HGB	13.9	g/dL	11.0-16.0
HCT	43.5	%	37-47
MCV	84.7	fL	80.0-100.0
MCH	27.0	pg	27.0-34.0
MCHC	32.0	g/dL	32.0-38.0
RDW-CV	13.7	%	11-14.5
RDW-SD	44.2	fL	35.0-56.0
PLT	253	10 ³ /uL	150-450
MPV	8.4	fL	6.5-12.0
PDW	15.6		9.0-17.0
PCT	0.213	%	0.108-0.282
PLCC	66	10 ⁹ /L	30-90
PLCR	26.0	%	11.0-45.0
ALY#	0.04	10 ³ /uL	0.00-0.20
ALY%	0.4	%	0.0-2.0



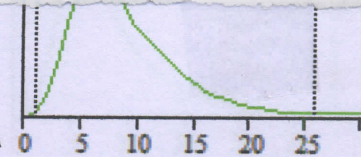
Pink: Mono. Red: Eos.
Green: Lym. Blue: Neut. + Bas



RBC Distribution

WBC	8.4 × 10 ³ / μL
RBC	5.09 × 10 ⁶ / μL
HGB	13.8 g/dL
HCT	42.0%
MCV	- 82.5 fL
MCH	27.1 pg
MCHC	32.9 g/dL
PLT	194 × 10 ³ / μL

LYM%	39.8%
MXD%	11.7%
NEUT%	48.5%
LYM#	3.3 × 10 ³ / μL
MXD#	1.0 × 10 ³ / μL
NEUT#	4.1 × 10 ³ / μL
RDW_SD	44.4 fL
RDW_CV	13.2%
PDW	+ 18.0 fL
MPV	12.5 fL
P-LCR	+ 45.3%



PLT Distribution

WBC Flag
Imm Granulocytes?

RBC Flag
PLT Flag

Comments

RBC Morphology

WBC Morphology

ALY: Atypical Lymphocyte
LIC: Large Immature cell
P-LCC: Platelet Large Cell Count
P-LCR: Platelet Large Cell Rate

Normal	
Anisocytosis	
Poikilocytosis	
Microcytosis	
Macrocytosis	
Macro Ovalocyte	
Hypochromia	
Polychromasia	
Ovalocyte	
Elliptocyte	
Target cell	
Spherocyte	

Acanthocyte	
Burr.cell	
Tear drop RBC	
Sickle cell	
Bite cell	
Blister cell	
Schistocyte	
Rouleaux form.	
Howell-Jolly body	
Baso stip.	
Pappenheimer	

Band	
Metamyelocyte	
Myelocyte	
Blast	
Lymph variant form	
Nrbc/100wbc	
Hypersegmented neutrophils	
Toxic Granulation	
Dohle bodies	
CVN	
Giant Platelets	

RDW:Red Distribution Width, MPV:Mean Platelete Volume , PCT:Plateletcrit, SD:Standard

Deviation, CV:Coefficient Variation , PDW:platelet Distribution Width

RASAD PATHOBIOLOGY & GENETIC LABO

Tel : 71365 Add : Tehran - Resalat Sq

Mindray BC-5800 (Full diff, Flowcytometry, Laser Light Scattering, C

No. 2597
Date 2002/03/
Time 14:
Mode WB

Name: ساناز سيدين

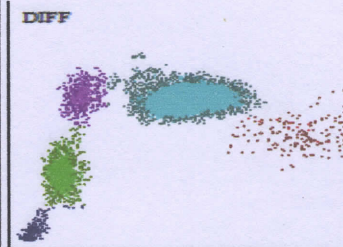
Age:

Test Time: 06/13/2023 1:42 PM

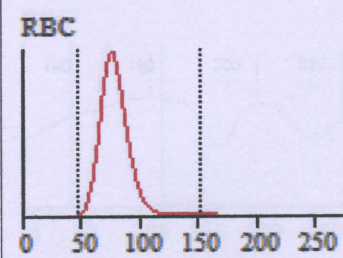
Gender: Female

Sample ID:

Parameter	Result	Unit	Ref.range
WBC	H 11.25	10 ³ /uL	4.00-11.00
NEU#	H 8.56	10 ³ /uL	2.00-7.00
LYM#	1.79	10 ³ /uL	0.80-4.00
MON#	0.62	10 ³ /uL	0.12-1.20
EOS#	0.26	10 ³ /uL	0.02-0.50
BAS#	0.02	10 ³ /uL	0.00-0.10
NEU%	76.1	%	-
LYM%	L 15.9	%	20.0-40.0
MON%	5.5	%	3.0-12.0
EOS%	2.3	%	0.5-6.0
BAS%	0.2	%	0.0-1.0
RBC	4.81	10 ⁶ /uL	3.50-5.50
HGB	15.0	g/dL	11.0-16.0
HCT	43.9	%	37-47
MCV	91.3	fL	80.0-100.0
MCH	31.2	pg	27.0-34.0
MCHC	34.2	g/dL	32.0-38.0
RDW-CV	12.7	%	11-14.5
RDW-SD	44.2	fL	35.0-56.0
PLT	241	10 ³ /uL	150-450
MPV	8.1	fL	6.5-12.0
PDW	15.7		9.0-17.0
PCT	0.195	%	0.108-0.282
PLCC	54	10 ⁹ /L	30-90
PLCR	22.3	%	11.0-45.0
ALY#	0.00	10 ³ /uL	0.00-0.20
ALY%	0.0	%	0.0-2.0

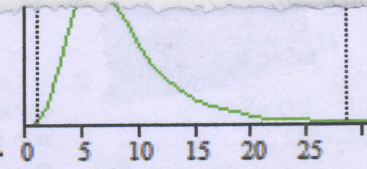


Pink: Mono. Red: Eos.
Green: Lym. Blue: Neut. + Bas



RBC Distribution

WBC	11.2 × 10 ³ / μL
RBC	4.75 × 10 ⁶ / μL
HGB	15.0 g/dL
HCT	41.6%
MCV	87.6 fL
MCH	31.6 pg
MCHC	36.1 g/dL
PLT	231 × 10 ³ / μL
LYM%	15.1%
MXD%	6.7%
NEUT%	78.2%
LYM#	1.7 × 10 ³ / μL
MXD#	0.8 × 10 ³ / μL
NEUT#	8.7 × 10 ³ / μL
RDW_SD	43.8 fL
RDW_CV	12.6%
PDW	16.4 fL
MPV	11.8 fL
P_LCR	40.8%



PLT Distribution

WBC Flag

RBC Flag
PLT Flag

Comments

RBC Morphology

WBC Morphology

Normal	Acanthocyte	Band
Anisocytosis	Burr.cell	Metamyelocyte
Poikilocytosis	Tear drop RBC	Myelocyte
Microcytosis	Sickle cell	
Macrocytosis	Bite cell	Blast
Macro Ovalocyte	Blister cell	Lymph variant form
Hypochromia	Schistocyte	Nrbc/100wbc
Polychromasia	Rouleaux form.	Hypersegmented neutrophils
Ovalocyte	Howell-Jolly body	Toxic Granulation
Elliptocyte	Baso stip.	Dohle bodies
Target cell	Pappenheimer	CVN
Spherocyte		Giant Platelets

ALY: Atypical Lymphocyte
LIC: Large Immature cell
P-LCC: Platelet Large Cell Count
P-LCR: Platelet Large Cell Rate

RDW:Red Distribution Width, MPV:Mean Platelete Volume , PCT:Plateletcrit, SD:Standard

Deviation, CV:Coefficiemt Variation , PDW:platelet Distribution Width

LAB Director

RASAD PATHOBIOLOGY & GENETIC LAB

درس: تهران، میدان رسالت، کوچه آژنگ، پلاک ۳۳، تلفن: ۷۱۳۴۵

Mindray BC-5800 (Full diff, Flowcytometry, Laser Light Scattering,

No. 2591
Date 2002/03/22
Time 14:00
Mode WB

Name:

Test Time: 06/13/2023 09:42 ق.ظ

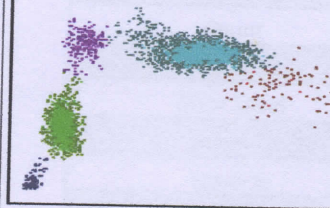
Gender:

Age:

Sample ID:

Parameter	Result	Unit	Ref.range	
WBC	5.22	10 ³ /uL	4.00-11.00	
RBC	4.78	10 ⁶ /uL	3.50-5.50	
HGB	14.1	g/dL	11.0-16.0	
HCT	41.7	%	37.0-54.0	
MCV	87.2	fL	80.0-100.0	
MCH	29.5	pg	27.0-34.0	
MCHC	33.8	g/dL	32.0-38.0	
RDW-CV	12.6	%	11.0-14.5	
RDW-SD	42.1	fL	35.0-56.0	
PLT	234	10 ³ /uL	150-450	
MPV	7.7	fL	6.5-12.0	
PDW	15.4		9.0-17.0	
PCT	0.180	%	0.108-0.282	
P-LCC	44	10 ⁹ /L	30-90	
P-LCR	18.7	%	11.0-45.0	
Neu#	3.14	10 ³ /uL	2.00-7.00	
Lym#	1.63	10 ³ /uL	0.80-4.00	
Mon#	0.27	10 ³ /uL	0.12-0.80	
Eos#	0.15	10 ³ /uL	0.02-0.50	
Bas#	0.03	10 ³ /uL	0.00-0.10	
Neu%	60.2	%	50.0-70.0	
Lym%	31.3	%	20.0-40.0	
Mon%	5.2	%	3.0-8.0	
Eos%	2.8	%	0.5-5.0	
Bas%	0.5	%	0.0-1.0	
ALY#	0.03	10 ⁹ /L	0.00-0.20	
ALY%	H	0.6	%	0.0-0.2

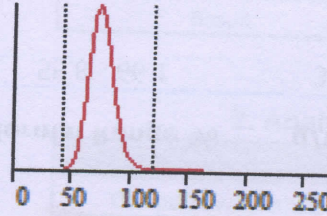
DIFF



Pink: Mono. Red: Eos.

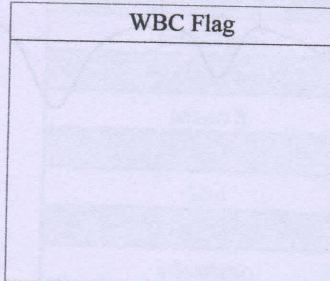
Green: Lym. Blue: Neut. + Bas

RBC



RBC Distribution

WBC Flag



WBC	5.2 × 10 ³ / μL
RBC	4.78 × 10 ⁶ / μL
HGB	13.7 g/dL
HCT	40.9%
MCV	85.4 fL
MCH	28.6 pg
MCHC	33.5 g/dL
PLT	231 × 10 ³ / μL
LYM%	32.8%
MXD%	7.8%
NEUT%	59.4%
LYM#	1.7 × 10 ³ / μL
MXD#	0.4 × 10 ³ / μL
NEUT#	3.1 × 10 ³ / μL
RDW-SD	43.1 fL
RDW-CV	12.5%
PDW	15.7 fL
MPV	11.8 fL
P_LCR	40.9%

No. 0
Date 2002/03/22
Time 14:03
Mode WB

کلیه درانه

WBC	0.0 × 10 ³ / μL
RBC	0.01 × 10 ⁶ / μL
HGB	0.0 g/dL
HCT	0.0%
MCV	--- fL
MCH	--- pg
MCHC	--- g/dL
PLT	0 × 10 ³ / μL
LYM%	--- %
MXD%	--- %
NEUT%	--- %
LYM#	--- × 10 ³ / μL
MXD#	--- × 10 ³ / μL
NEUT#	--- × 10 ³ / μL
RDW-SD	--- fL
RDW-CV	--- %
PDW	--- fL
MPV	--- fL
P_LCR	--- %

Comments

RBC Morphology

Normal	
Anisocytosis	
Poikilocytosis	
Microcytosis	
Macrocytosis	
Macro Ovalocyte	
Hypochromasia	
Polychromasia	
Ovalocyte	
Elliptocyte	
Target cell	
Spherocyte	

Acanthocyte	
Burr.cell	
Tear drop RBC	
Sickle cell	
Bite cell	
Blister cell	
Schistocyte	
Rouleaux form.	
Howell-Jolly body	
Baso stip.	
Pappenheimer	

Band	
Meta	
Myel	
Prom	
Blast	
Lymph	
Nrbc	
Hyp	
Segmented neutrophils	
Toxic Granulation	
Dohle bodies	
CVN	
Giant Platelets	

ALY: Atypical Lymphocyte
LIC: Large Immature cell
LCC: Platelet Large Cell Count
LCR: Platelet Large Cell Rate

RDW: Red Distribution Width, MPV: Mean Platelet Volume, PCT: Plateletcrit, SD: Standard Deviation, CV: Coefficient Variation, PDW: platelet Distribution Width

LAB Director