

case 1		case 2
Blood picture + bioch	Normal values	Blood picture + bioch
Leu: 2,56]	[4,00..10,00]	Leu: 6,87
Ery: 1,85	[4,00..5,80]	Ery: 4,53
HB: 78	[135..175]	HB: 97
HTC: 0,226	[0,400..0,500]	HTC: 0,344
MCV: 122,2	[82,0..98,0]	MCV: 75,9
MCH: 42,2	[28,0..34,0]	MCH: 21,4
MCHC: 345	[320..360]	MCHC: 282
RDW: 15,9	[10,0..15,2]	RDW: 22,5
Plt: 107	[150..400]	Plt: 373
Differential count relative		Differential count relative
Ne: 59,8	[45,0..70,0]	Ne: 70,6
Ly: 32,0	[20,0..45,0]	Ly: 18,5
Mo: 4,3	[2,0..12,0]	Mo: 8,3
Eo: 3,5	[0,0..5,0]	Eo: 2,3
Ba: 0,4	[0,0..2,0]	Ba: 0,3
Differential count absol.		Differential count absol.
Ne abs.: 1,53	[2,00..7,00]	Ne abs.: 4,85
Ly abs.: 0,82	[0,80..4,00]	Ly abs.: 1,27
Mo abs.: 0,11	[0,80..4,00]	Mo abs.: 0,57
Eo abs.: 0,09	[0,00..0,50]	Eo abs.: 0,16
Ba abs.: 0,01	[0,00..0,20]	Ba abs.: 0,02
Dif. count manual (microscope):		
Anisocytosis: +++	6,6-28	
Makrocytes: +++	40,8- 76,6	
Poikilocytes: +		
Rtc abs. 0,022 [0,025..0,100]		
Biochemistry + iron metab		Iron metabolism
Fe: 19,7	[7,2..29,0]	Fe: 2,3
Transferrin: 1,88	[2,00..3,60]	Transferrin: 3,92
Satur. trf: 46,1	[19,0..49,0]	Satur. trf: 3,0
Ferritin: 99,3	[22,0..322,0]	Ferritin: 6,6
Vitamin B12: 45 [145..569]	[1,1 – 4,1]	Solub. trnsf.receptor: 12,9
Folinic acid 8,5 [3,9..26,8]		
Haptoglobin: 0,30 [0,30..2,00]		
	[40-76,6]	TIBC: 80,4
LD: 5,2	[2,2..3,8]	
Direct coombs test: negat		

case 1	case 2
Hypoproliferative anaemia: severe avitaminosis B 12 – makrocytic anaemia , leuko and thrombocytopenia	Hypoproliferative anaemia: IDA, Iron deficiency anaemia

case 3		case 4
Blood picture	Normal values	Blood picture + bioch:
Leu: 205,79	[4,00..10,00]	Leu: 6,45
Ery: 4,16	[4,00..5,80]	Ery: 3,29
HB: 107	[135..175]	HB: 105
HTC: 0,376	[0,400..0,500]	HTC: 0,301
MCV: 90,4	[82,0..98,0]	MCV: 91,5
MCH: 25,7	[28,0..34,0]	MCH: 31,9
MCHC: 285	[320..360]	MCHC: 349
RDW: 20,4	[10,0..15,2]	RDW: 15,8
Plt: 112	[150..400]	Plt: 172
Differential count relative		Differential count relative
Ne: 2,3	[45,0..70,0]	Ne: 68,0
Ly: 95,5	[20,0..45,0]	Ly: 21,2
Mo: 1,8	[2,0..12,0]	Mo: 7,6
Eo: 0,1	[0,0..5,0]	Eo: 2,9
Ba: 0,3	[0,0..2,0]	Ba: 0,3
Differential count absol.		Differential count absol.
Ne abs.: 4,61	[2,00..7,00]	Ne abs.: 4,38
Ly abs.: 196,55	[0,80..4,00]	Ly abs.: 1,37
Mo abs.: 3,77	[0,80..4,00]	Mo abs.: 0,49
Eo abs.: 0,27	[0,00..0,50]	Eo abs.: 0,19
Ba abs.: 0,59	[0,00..0,20]	Ba abs.: 0,02
		Other
Gumprecht's shadows: 31	[1,0-15,0 ‰]	Rtc (thousandth): 48 ‰
or: smudge cells	[0,025..0,100]	Rtc abs.: 0,157
		Liver tests
	[2,0..17,0]	Bilirubin: 54,7
	[0,0..5,1]	Bili dir.: 16,5
		ALT: 0,47
		AST: 0,50
		GGT: 0,43
		ALP: 1,82
		Enzymes:
	[2,2..3,8]	LD: 5,9
		Proteins:
	[0,30..2,00]	Haptoglobin: <0,06

case 3	case 4
CLL, Rai 2, slight anaemia, and slight thrombocytopenia	Haemolytic anaemia (Hb, rtc, bili, hpto, LD)

21.03.2022	<u>interim case 1</u>	24.03.2022
Blood picture	Normal values	Blood picture
Leu: 2,29	[4,00..10,00]	Leu: 5,42
Ery: 4,27	[4,00..5,80]	Ery: 3,95
HB: 123	[135..175]	HB: 112
HTC: 0,375	[0,400..0,500]	HTC: 0,347
MCV: 87,8	[82,0..98,0]	MCV: 87,8
MCH: 28,8	[28,0..34,0]	MCH: 28,4
MCHC: 328	[320..360]	MCHC: 323
RDW: 13,2	[10,0..15,2]	RDW: 13,1
Plt: 112	[150..400]	Plt: 160
Differential count - % relative		
Ne: 65,0	[45,0..70,0]	Ne: 60,9
Ly: 23,6	[20,0..45,0]	Ly: 23,6
Mo: 9,2	[2,0..12,0]	Mo: 11,8
Eo: 1,3	[0,0..5,0]	Eo: 3,3
Ba: 0,9	[0,0..2,0]	Ba: 0,4
Differential count absol.		
Ne abs.: 1,49	[2,00..7,00]	Ne abs.: 3,30
Ly abs.: 0,54	[0,80..4,00]	Ly abs.: 1,28
Mo abs.: 0,21	[0,80..4,00]	Mo abs.: 0,64
Eo abs.: 0,03	[0,00..0,50]	Eo abs.: 0,18
Ba abs.: 0,02	[0,00..0,20]	Ba abs.: 0,02
Diff. manual % - microscope		
Neu seg 59,0	[47,0..70,0]	
Neu Band 19,0	[0,0..4,0]	Neu Band : 5,0
Lympho: 14,9	[20,0..45,0]	
Mo: 5,1	[2,0..10,0]	
Eo: 0,5	[0,0..5,0]	
Ba: 1,5	[0,0..1,0]	
Myelocytes (MC) 0,5		
Proteins		Proteins
CRP: 149,8	[0,0..5,0]	CRP: 27,8

interim Case 1

Bacterial pneumonia

1st exam: leukopenia, left shift (Bands, MC), high CRP

2nd exam after 4 days: normalization CRP, bands....

case 5		case 6
Blood picture + bioch	Normal values	Blood picture
Leu: 6,10	[4,00..10,00]	Leu: 88,03
Ery: 4,25	[4,00..5,80]	Ery: 5,13
HB: 113	[135..175]	HB: 146
HTC: 0,345	[0,400..0,500]	HTC: 0,44
MCV: 81,2	[82,0..98,0]	MCV: 85,8
MCH: 26,6	[28,0..34,0]	MCH: 28,5
MCHC: 328	[320..360]	MCHC: 332
RDW: 16,7	[10,0..15,2]	RDW: 15
Plt: 236	[150..400]	Plt: 98
Differential count relative		MPV: 10
Ne: 46,0		PCT: 0,1
Ly: 42,0		PDW: 11,3
Mo: 7,9		Differential count relative
Eo: 3,8	[45,0..70,0]	Ne: 3,2
Ba: 0,3	[20,0..45,0]	Ly: 86,8
Minerals	[2,0..12,0]	Mo: 9,7
TIBC: 80,1	[0,0..5,0]	Eo: 0,1
Fe-saturation 0,12	[0,0..2,0]	Ba: 0,2
Proteins:		Differential count absol.
Transferrin: 3,98 [2,00..3,60]	[2,00..7,00]	Ne abs.: 2,72
Trf saturation: 10,5 [19,0..49,0]	[0,80..4,00]	Ly abs.: 76,44
Ferritin: 6,9 [10,0..291,0]	[0,80..4,00]	Mo abs.: 8,56
	[0,00..0,50]	Eo abs.: 0,11
	[0,00..0,20]	Gumprecht's shadows: 31
		or: smudge cells

case 5	case 6
Iron deficiency anaemia (microcytic, hypochromic, sideropenic)	CLL Rai, clinical stage IV (thrombocytopenia)

Interim Case 2		
ESR FW/1hod: >120	Normal values	Proteins:
Blood picture (CBC):		Albumin: 37,9
Leu: 8,86	[4,00..10,00]	Total Protein : 106,8 [65,0...85,0]
Ery: 4,26	[4,00..5,80]	IgG: 5,1
HB: 133	[135..175]	IgA: 58,90
HTC: 0,402	[0,400..0,500]	FKAP: 87,19 [3,30..19,40]
MCV: 94,4	[82,0..98,0]	FLAM: 6,39 [5,71..26,30]
MCH: 31,2	[28,0..34,0]	index FKAP/FLAM: 13,64 [0,26..1,65]
MCHC: 331	[320..360]	IEP : paraprotein IgA kappa.
RDW: 16,1	[10,0..15,2]	(EP - Protein electrophoresis):
Plt: 394	[150..400]	M-G%: 45,8
Differential count relative		Alb.%: 34,30
Ne: 47,3	[45,0..70,0]	A1G%: 2,20
Ly: 46,2	[20,0..45,0]	A2G%: 8,50
Mo: 5,5	[2,0..12,0]	B1G%: 3,40
Eo: 0,7	[0,0..5,0]	B2G%: 4,80
Ba: 0,3	[0,0..2,0]	GG%: 46,80
Differential count absol.:		M-G: 48,91 g/l [0,0 – 0,1]
Ne abs.: 4,19	[2,0..12,0]	Alb.: 36,6 [35,2 – 50,4]
Ly abs.: 4,09	[0,0..5,0]	A1G: 2,35 [1,3..3,9]
Mo abs.: 0,49	[0,0..2,0]	A2G: 9,1
Eo abs.: 0,06	[2,00..7,00]	A2G%: 8,50
Ba abs.: 0,03	[0,80..4,00]	B1G: 3,63
Diff. count - microscope:		B2G: 5,1
SEG: 51,5		GG: 49,98 [5,80..15,20]
Ly: 42,0		A/G: 0,522
Mo: 5,5		Blood - tumour markers:
Ba: 1,0		Beta-2-micro: 7,25 [1,0 – 2,40]
Rouleaux ery: +++		Liver tests
Minerals + Osmolality:		Bilirubin: 8,6
Na: 135	[137...146]	ALT: 0,25 [0,10..0,78]
K: 4,9	[3,8...5,0]	AST: 0,95 [0,10..0,72]
Cl: 96	[97..108]	GGT: 1,88 [0,14..0,68]
Ca: 2,78	[2,0..2,75]	ALP: 3,06 [0,58..1,,73]
P: 1,17	[065..1,61]	
Nitrogen catabolites:		Enzymes:
Urea: 4,8	[2,0..6,7]	LD: 2,5 [2,20..3,80]
Creatinine.: 95	[44..104]	
Uric acid.: 449	[140..340]	

Interim case 2

Multiple myeloma IgA kappa, A; anaemia, thrombocytopenia; hyperproteinaemia, coagulopathy, susp osteolytic lesions (ALP, Ca) – skeletal CT scan needed

case 7		case 8
Blood picture	Normal values	Blood picture
Leu: 0,95	[4,00..10,00]	Leu: 163,08
Ery: 4,16	[4,00..5,80]	Ery: 4,24
HB: 115	[135..175]	HB: 111
HTC: 0,345	[0,400..0,500]	HTC: 0,354
MCV: 83,1	[82,0..98,0]	MCV: 83,5
MCH: 27,7	[28,0..34,0]	MCH: 26,3
MCHC: 333	[320..360]	MCHC: 315
RDW: 18,7	[10,0..15,2]	RDW: 15,7
Plt: 54	[150..400]	Plt: 51
MPV: 8,1		MPV: 7,7
PCT: 0,043		PCT: 0,039
PDW: 18,8		PDW: 19,9
Differential count relative		Differential count relative
Ne: 21,8	[45,0..70,0]	Ne: 7,3
Ly: 60,3	[20,0..45,0]	Ly: 8,8
Mo: 17,0	[2,0..12,0]	Mo: 83,1
Eo: 0,2	[0,0..5,0]	Eo: 0,8
Ba: 0,7	[0,0..2,0]	Ba: 0,0
Differential count absol.		Differential count absol.
Ne abs.: 0,21	[2,00..7,00]	Ne abs.: 11,90
Ly abs.: 0,57	[0,80..4,00]	Ly abs.: 14,30
Mo abs.: 0,16	[0,80..4,00]	Mo abs.: 135,6
Eo abs.: 0,00	[0,00..0,50]	Eo abs.: 1,30
Ba abs.: 0,01	[0,00..0,20]	Ba abs.: 0,00

case 7	case 8
Severe neutropenia, thrombocytopenia, slight anaemia = pancytopenia after chemotherapy	Monocytic leukaemia (absolute monocytosis, severe thrombocytopenia, slight anaemia (ACD))

17.06.2023	Interim case 03	26.06.23
Blood picture	Normal values	Blood picture
Leu: 16,32	[4,00...10,00]	Leu: 7,53
Ery: 3,57	[4,00...5,80]	Ery: 3,73
HGB: 92	[135...175]	HGB: 97
HCT: 0,282	[0,400...0,500]	HCT: 0,311
MCV: 79,0	[82,0...98,0]	MCV: 83,4
MCH: 25,8	[28,0...34,0]	MCH: 26,0
MCHC: 326	[320...360]	MCHC: 312
RDW: 15,9	[10,0..15,2]	RDW: 17,0
Plt: 258	[150..400]	Plt: 307
	Diff count relat	
Ne: 54,3	[45,0...70,0]	Ne: 68,0
Ly: 15,0	[20,0...45,0]	Ly: 21,2
Mo: 9,9	[2,0...12,0]	Mo: 7,6
Eo: 1,1	[0,0...5,0]	Eo: 2,9
Ba: 0,4	[0,0...2,0]	Ba: 0,3
Immature granulocytes 19,3	-	
	Diff absol.	
Ne abs.: 7,62	[2,00...7,00]	Ne abs.: 4,38
Ly abs.: 2,10	[0,80...4,00]	Ly abs.: 1,37
Mo abs.: 1,38	[0,80...4,00]	Mo abs.: 0,49
Eo abs.: 0,16	[0,00...0,50]	Eo abs.: 0,19
Ba abs.: 0,05	[0,00...0,20]	Ba abs.: 0,02
Immature granulocytes 2,70	-	
	Diff microscope	
Segm: 78,8	[45,0...70,0]	
Bands: 5,5	[0,0 – 4,0]	
Ly: 6,1	[20,0 - 45,0]	
Mo: 8,1	[2,0 -12,0]	
Mmy: 2, 5	-	
My: 5,4	-	
Promy: 0,5	-	
	Proteins	
CRP - 299,2	[0,0 – 5,0]	CRP - 40,2
TP (total protein) : 67,5	65-85 g/l]	
(EP - Protein electrophoresis):		
Alb. %: 33,10	[55,8 – 66,1]	
A1G %: 7,20	[2,9 – 4,90]	A1G %: 6,10
A2G %: 19,30	[7,1 – 11,8]	A2G %: 17,30
GG %: 23,8	[11,1 – 18,8 %]	GG %: 29,00
GG : 15,66	[5,8-15 20 g/l]	GG : 19,58
M-G: negat	[0,0-0,1]	

Erysipel of a lower leg - sepsis... necrotic skin, area 2x3 cm, plus subcutaneous necrotic tunnel... cutaneous smear – bacteriology- *Staphylococcus aureus*

Erysipel, sepse - nekrotický kožní kryt vel. 2x3cm + v podkoží chobot 3 cm též s nekrotizací ...lividní kožní lem vel. 4x4cm... stěr z defektu: *Staphylococcus aureus*

Interim case 03

1st day exam: **sepsis, leukocytosis, left shift + leukemoid reaction** (Bands, Mmy, My, ProMy), high CRP; hypergammaglobulinemia M-G negat = polyclonal= reactive

9th day exam: normalization CRP, bands....

case 09		case 10
Blood picture + bioch	Normal values	Blood picture
Leu: 2,77	[4,00..10,00]	Leu: 7,51
Ery: 2,27	[4,00..5,80]	Ery: 4,07
HB: 73	[135..175]	HGB: 131
HTC: 0,219	[0,400..0,500]	HCT: 0,383
MCV: 96,5	[82,0..98,0]	MCV: 94,1
MCH: 32,2	[28,0..34,0]	MCH: 32,2
MCHC: 333	[320..360]	MCHC: 342
RDW: 16,1	[10,0..15,2]	RDW: 13,6
Plt: 42	[150..400]	Plt: 179
Differential count relative		
Ne: 70,4	[45,0..70,0]	Ne: 66,9
Ly: 19,9	[20,0..45,0]	Ly: 22,5
Mo: 9,7	[2,0..12,0]	Mo: 8,3
Eo: 0,0	[0,0..5,0]	Eo: 2,1
Ba: 0,0	[0,0..2,0]	Ba: 0,1
Differential count absol.		
Ne abs.: 1,95	[2,0..12,0]	Ne abs.: 5,02
Ly abs.: 0,55	[0,0..5,0]	Ly abs.: 1,69
Mo abs.: 0,27	[0,0..2,0]	Mo abs.: 0,62
Eo abs.: 0,00	[2,00..7,00]	Eo abs.: 0,16
Ba abs.: 0,00	[0,80..4,00]	Ba abs.: 0,01
Coagulation		
Quick test -INR: 2,28	[0,80 – 1,20]	INR: 1,04
APTT: 51,4	[25,9 – 40 s]	APTT: 23,9
Fibrinogen: 5,31		
Nitrogen catabolites:		
Urea: 9,9	[2,8 – 8,0]	Urea: 4,2
Creatinine.: 229	[44-110]	Kreat.: 89
Uric acid.: 274	[220 – 420]	Uric acid: 456
Proteins:		
Total Protein 126,6	[65,0...85,0]	TP: 109,2
FKAP: 1,43	[3,30..19,40]	FKAP: 8,49
FLAM: 26592,00	[5,71..26,30]	FLAM: 221,23
M-G 48,0	[0,00..0,10]	M-G 43,83
IEP: paraprotein IgG L		IEP: paraprotein IgM L
Plasma cells: 18 %	Bone marrow - FACS	Ly %13,4 %, Pl.c.:0,8 %
Plasma cells: 38 %	Trephin biopsy	Lymphocytes with plasmocellular differentiation: 30 %

case 09	case 10
Multiple myeloma IgG labda B; anemia, thrombocytopenia; renal insufficiency hyperproteinemia, coagulopathy	Lymphoplasmocellular lymphoma + IgM lambda = Waldenström macroglobulinemia

Case 11 - UHKT

Blood picture (CBC):	Result	Normal values
Leu	97.97 10 ⁹ /l	4.00-10.00
Ery	2.88 10 ¹² /l	3.80-5.20
Hgb	88 g/l	120-160
HTC	0.259 1	0.350-0.470
MCV	89.9 fl	82.0-98.0
MCH (Stř. obsah Hgb v erythrocytu)	30.6 pg	28.0-34.0
MCHC (Stř. koncentrace Hgb v ery)	340 g/l	320-360
RDW (Distr. šíře dle objemu ery)	15,00 %	10.00-15.20
RTC absol	0.010 10 ¹² /l	0.025-0.100
RTC relat	0.34 %	0.50-2.50
MCH RTC (Stř. obsah Hgb v rtc)	36.7 pg	28.0-35.0
Thrombocytes	53 10 ⁹ /l	150-400
Differential relative		
Neutrophils	44.0 %	45.0-70.0
Lymphocytes	17.8 %	20.0-45.0
Monocytes	38.2 %	2.0-12.0
Eo	0.0 %	0.0-5.0
Baso	0.0 %	0.0-2.0
Differential absol.		
Neutrophils	43.12 10 ⁹ /l	2.00-7.00
Lymphocytes	17.42 10 ⁹ /l	0.80-4.00
Monocytes	37.39 10 ⁹ /l	0.08-1.20
Eo	0.00 10 ⁹ /l	0.00-0.50
Baso	0.04 10 ⁹ /l	0.00-0.20
Differential count – microscope		
Segment neutro	1.0 %	47.0-70.0
Band - neutro	0 %	0.0-4.0
Lymphocyte	9.0 %	20.0-45.0
Prolymphocyte	0 %	0.0-0.0
Large granular lymphocytes	0 %	0.0-10.0
Monocytes	55.5 %	2.0-10.0
Eosino	0 %	0.0-5.0
Baso	0 %	0.0-1.0
Neutrophile metamyelocyte	0 %	0.0-0.0
Neutrophile myelocyte	0 %	0.0-0.0
Promyelocyte	0 %	0.0-0.0
Blast	32.0 %	0.0-0.0

Case 11 - UHKT

Leukocytosis, anaemia, thrombocytopenia

Diff: monocytosis, blasts 32% - (AML)

Hiatus leucaemicus (**leukemic gap**): extensive lack of **mean** stages of maturation of myelopoiesis in the differential blood count or in the bone marrow

Case 12 – UHKT		
Blood picture (CBC):	Results	Normal values
Leu	631.79 10 ⁹ /l	4.00-10.00
Ery	2.40 10 ¹² /l	3.80-5.20
Hgb	83.00 g/l	120-160
Hct	0.230 l	0.350-0.470
MCV	95.80 fl	82.0-98.0
MCH (Mean corpuscular Hb)	34.60 pg	28.0-34.0
MCHC (Mean corpuscular Hb concentration)	361.00 g/l	320-360
RDW (red distribution width)	19.70 %	10.00-15.20
RTC absol	0.072 10 ¹² /l	0.025-0.100
RTC relat	3.01 %	0.50-2.50
Thrombocytes	220.00 10 ⁹ /l	150-400
Differential absol.		
Neutrophils	512.63 10 ⁹ /l	2.00-7.00
Lymphocytes	27.53 10 ⁹ /l	0.80-4.00
Monocytes	11.86 10 ⁹ /l	0.08-1.20
Eo	5.44 10 ⁹ /l	0.00-0.50
Baso	74.33 10 ⁹ /l	0.00-0.20
Differential relative	Differential relative	
Neutrophils	81.00 %	45.0-70.0
Lymphocytes	4.40 %	20.0-45.0
Monocytes	1.90 %	2.0-12.0
Eo	0.90 %	0.0-5.0
Baso	11.80 %	0.0-2.0
Immature granulo	318.64 10 ⁹ /l	
Immature granulo	50.40 %	
Erythroblasts	3.75 10 ⁹ /l	
Erythroblasts	0.60 /100WBC	
Differential count – microscope:		
Segment neutro	29.00 %	
Band - neutro	27.00 %	
Lymphocyte	0 %	
Prolymphocyte	0 %	
Large granular lymphocytes	0 %	
Monocytes	1.00 %	
Eosino	2.00 %	
Baso	3.00 %	
Neutrophile metamyelocyte	11.00 %	
Neutrophile myelocyte	21.00 %	
Promyelocyte	3.00 %	
Blast	3.00 %	
BCR-ABL - . . . positive – inf the region major BCR-ABL Cytogenetics . . .Mitoses:: 22 : 46,XY, t(9;22)(q34;q11)		

Case 12 -- UHKT

Chronic myeloid leukemia

Hyperleukocytosis, anaemia,

Positivity of fusion gen **bcr/abl**, presence of **Philadelphia chromosome**

case 13		case 14
Blood picture	Normal values	Blood picture + bioch
Leu: 205,79	[4,00..10,00]	Leu: 7,06
Ery: 4,16	[3,80..5,20]	Ery: 3,84
HB: 107	[120..160]	HGB: 60
HTC: 0,376	[0,350..0,470]	HCT: 0,242
MCV: 90,4	[82,0..98,0]	MCV: 63,0
MCH: 25,7	[28,0..34,0]	MCH: 15,6
MCHC: 285	[320..360]	MCHC: 248
RDW: 20,4	[10,0..15,2]	RDW: 24,0
Plt: 112	[150..400]	Plt: 247
Differential count relative		Differential count relative
Ne: 2,3	[45,0..70,0]	Ne: 54,7
Ly: 95,5	[20,0..45,0]	Ly: 24,2
Mo: 1,8	[2,0..12,0]	Mo: 15,4
Eo: 0,1	[0,0..5,0]	Eo: 4,1
Ba: 0,3	[0,0..2,0]	Ba: 1,6
		Rtc 15 % [5,0 - 25]
		0,055 absol [0,025 - 0,1]
		Minerals
Differential count absol.		Fe 1,7 [6,0 - 28]
Ne abs.: 4,61	[2,00..7,00]	TIBC: 60,6 [40,8..76,6]
Ly abs.: 196,55	[0,80..4,00]	Fe-saturation 0,03
Mo abs.: 3,77	[0,80..4,00]	Proteins:
Eo abs.: 0,27	[0,00..0,50]	Transferrin: 3,84 [2,00..3,60]
Ba abs.: 0,59	[0,00..0,20]	Trf saturation: 2,6 [19,0..49,0]
Gumprecht's shadows: 31		Ferritin: 3,2 [10,0..291,0]
or: smudge cells		

case 13	case 14
CLL - thrombocytopenia, anaemia, anisocytosis, Rai 2	Iron deficiency anaemia (microcytic, hypochromic, sideropenic)

NCI Common Terminology Criteria for Adverse Events grading of hematologic toxicity

Blood element (units)	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Neutrophils	<LLN to 1500/mm ³	1000 to 1500/mm ³	500 to 1000/mm ³	<500/mm ³	
Platelets	<LLN to 75,000/mm ³	50,000 to 75,000/mm ³	25,000 to 50,000/mm ³	<25,000/mm ³	
Haemoglobin	<LLN to 10 g/dL	8.0 to 10.0 g/dL	<8.0 g/dL	Life-threatening consequences: urgent intervention indicated	Death
CD4 count	<LLN to 500/mm ³	200 to 500/mm ³	50 to 200/mm ³	<50/mm ³	
Lymphocytopenia	<LLN to 800/mm ³	500 to 800/mm ³	200 to 500/mm ³	<200/mm ³	
Febrile neutropenia			ANC <1000/microL with a single temperature >38.3°C (100.4°F) or a sustained temperature ≥38°C (100°F) for more than one hour	Life-threatening consequences: urgent intervention indicated	Death

LLN: lower limit of normal.

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