

RESULTS

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This study included 100 children chosen from the attendants of the outpatient Hepatology clinic pediatric department, Banha University.

According to their clinical picture, they were divided into three groups:

Group I : Enlarged liver only.

Group II: Enlarged liver + fever.

Group III: Fever + Enlarged liver + Enlarged spleen.

Furthermore, each group was subdivided according to their age into subgroup a) aged 1 year and another subgroup b) aged 3-6 years.

Ten normal age and sex matched controls were chosen.

I- Results of the control group (Table 12).

Parameter	Range	Mean $\pm$ SD
<u>Blood Picture :</u>		
Hemoglobin gm/dl	10.9-13.1	12.3 $\pm$ 0.8
RBCs $\times 10^{12}/L$	3.1-4.5	3.9 $\pm$ 0.4
MCV FL	66.9-78.1	75.0 $\pm$ 4.6
MCV Pg	27.8- 36.2	30.8 $\pm$ 3.3
TLC $\times 10^9/L$	6.5- 15.1	10.8 $\pm$ 3.0
Platelets $\times 10^9/L$	192- 460	329.9 $\pm$ 96.17
<u>Liver Function Tests :</u>		
Total bilirubin mg/dl	0.2- 0.9	0.5 $\pm$ 0.2
Direct Bilirubin mg/dl	0.1 - 0.4	0.2 $\pm$ 0.1
AST U/L	18.0 - 35.0	27.7 $\pm$ 5.9
ALT U/L	23.0- 38.0	29.6 $\pm$ 4.6
ALP U/L	525.0 - 1310	752.5 $\pm$ 262.6
NBT	3 - 7 %	5 $\pm$ 1.41

The anti-CMV IgM was negative in the control group with index less than 0.5. It was considered positive when the index exceeds 0.5.

I- The results of the patient group.

Table 13 : Group Ia [Liver enlargement only] (one year).

No. of cases	Hb g/dl g/dl	RBCs $\times 10^{12}/L$	Hct %	MCV FL	MCH Picogram	MCHC gm/100 ml	Platelets $\times 10^9/L$
1	7.9	3.2	22.3	69.6	25	34	327
2	8.0	3.0	20	65	23	32	200
3	7.4	2.54	20.7	81.4	29.1	35.7	257
4	6.8	2.59	19.1	73.7	26.3	35.6	228
5	9.4	3.5	25	71	27	37	274
6	8.1	3.26	24.6	75.4	24.8	32.9	320
7	8.0	3.1	22	63	24	33.5	210
8	7.3	2.63	21.5	80.1	28.4	35	255
9	8.5	3.4	25	77	27	34	310
Min.	6.8	2.54	19.1	65	23	32	200
Max.	9.4	3.5	25	81.4	29.1	37	327
Mean	7.93	3.01	21.95	72.69	25.87	34.53	267.67
SD	0.87	0.40	2.45	5.58	2.10	1.89	50.13

Table 14: Group IIa [Liver enlargement + Fever] (one year).

No. of cases	Hb g/dl g/dl	RBCs $\times 10^{12}/L$	Hct %	MCV FL	MCH Picogram	MCHC gm/100 ml	Platelets $\times 10^9/L$
1	11.7	4.15	32.6	78.5	28.2	35.9	315
2	8.1	3.2	22.9	71.7	25.3	35.4	348
3	5.9	2.47	16.5	66.9	23.5	35.2	150
4	8.5	3.4	24	64	21	32	190
5	8.2	3.4	23	67.9	24.1	35.5	100
6	8.4	3.4	23.5	65	22	33	160
7	11.5	4.0	31.0	77	27	35	310
8	8.0	3.0	22.1	70.7	25.2	35.3	315
9	8.1	3.25	22.5	71.5	25.2	35	180
Min.	5.9	2.47	16.5	64	21	32	100
Max.	11.7	4.15	32.6	78.5	28.2	35.9	348
Mean	8.48	3.32	23.8	69.8	24.42	34.8	220.6
SD	2.08	0.6	5.75	5.59	2.63	1.59	106.78

Table 15: Group IIIa [Fever + Liver enlargement + Spleen enlargement] (one year).

No. of cases	Hb g/dl g/dl	RBCs $\times 10^{12}/L$	Hct %	MCV FL	MCH Picogram	MCHC gm/100 ml	Platelets $\times 10^9/L$
1	7.7	2.4	20	83	23	38	70
2	11.5	4.19	32	76.3	27.4	35.9	301
3	12.0	3.6	33	81.6	30.4	36.3	120
4	8.0	3.42	22.4	65.5	23.4	35.7	50
5	9.2	5.06	27.1	53.6	18.2	33.9	148
6	11.4	4.0	31	76.1	27.1	35	300
7	8.0	3.3	22.1	65.1	22.0	34.4	150
8	8.5	3.5	24	67	27	36	160
9	11.4	4.1	31.5	73	27	35	300
Min.	7.7	2.4	20	53.6	18.2	33.9	50
Max.	12	5.06	33	83	30.4	38	301
Mean	9.68	3.73	26.9	72	24.48	35.96	137.8
SD	1.98	0.99	5.73	12.37	4.65	1.47	99.21

Table 16: Group Ib [Liver enlargement] (3-6 years).

No. of cases	Hb g/dl g/dl	RBCs $\times 10^{12}/L$	Hct %	MCV FL	MCH Picogram	MCHC gm/100 ml	Platelets $\times 10^9/L$
1	10.1	3.59	28.5	70.3	28.1	35.4	103
2	9.1	5.03	27	52.8	18.1	32.9	348
3	10.6	4.14	31.6	76.3	25.6	23.5	332
4	11.8	4.47	33.1	74.1	26.4	35.6	299
5	10.8	3.94	30.4	77.1	27.4	39.5	169
6	11.2	4.51	31.8	70.8	29.8	35.2	220
7	11.6	3.86	31.9	82.6	30.1	36.4	200
8	11.6	4.03	38.6	95.7	28.8	30.1	221
9	9.1	3.2	25.8	80	28.2	35.3	113
10	6.8	3.22	19.2	59.7	21.1	35.4	259
11	10.7	5.23	32.1	59.5	19.8	33.1	150
12	9.0	3.1	25.1	78	27.8	35.0	210
13	10.3	3.61	28.3	78.5	28.5	36.4	240
14	8.8	3.34	25.3	75.6	26.3	34.8	430
15	9.1	3.37	25.4	75.3	27.0	35.8	170
16	10.4	3.63	28.1	78.0	28.1	36.1	180
17	9.0	3.03	25.1	83.1	29.5	35.1	200
18	11.2	4.42	31.0	69	21	37	190
19	8.0	3.2	24.1	75	23	31.2	180

Table 16: Group Ib [Liver enlargement] (3-6 years) (continued).

No. of cases	Hb g/dl g/dl	RBCs $\times 10^{12}/L$	Hct %	MCV FL	MCH Picogram	MCHC gm/100 ml	Platelets $\times 10^9/L$
20	8.2	3.37	23.1	69.2	24.2	34.1	100
21	9.3	3.95	25.4	64.3	23.2	36.2	169
22	11.0	3.95	31.7	80.2	27.8	34.7	55
23	11.0	4.47	31.6	70.8	24.6	34.8	453
24	10.5	3.7	29.0	70	27.5	33.2	150
25	11.9	4.41	34.6	78.5	27.0	34.4	516
26	11.1	3.7	30	82	30	37	109
27	12.4	5.44	34	62.5	22.8	36.5	269
28	12	3.8	31.8	80.1	28.4	33.5	168
29	12.6	5.28	37.2	70.5	23.9	33.9	329
30	9.9	3.45	27.4	79.3	28.7	36.1	88
31	10.27	4.07	28.6	70.2	25.1	35.7	123
32	8.1	3.6	24	67	25.3	35.4	93
33	6.5	2.9	18	66.2	16.1	32.1	150
Min.	6.5	2.9	18	52.8	16.1	23.5	55
Max.	12.6	5.44	38.6	95.7	30.1	37	516
Mean	10.12	3.91	28.75	73.4	25.73	34.47	213.52
SD	1.54	0.67	4.61	8.36	3.52	2.54	108.6

Table 17: Group IIb [Liver enlargement + Fever] [3-6 years].

No. of cases	Hb g/dl g/dl	RBCs $\times 10^{12}/L$	Hct %	MCV FL	MCH Picogram	MCHC gm/100 ml	Platelets $\times 10^9/L$
1	12.3	3.98	33.7	84.7	30.9	36.5	275
2	9.9	3.42	27.4	80.0	28.9	36.1	242
3	8.9	3.69	25.6	69.5	24.1	34.8	336
4	12.3	3.89	33.7	84.7	30.9	36.5	275
5	9.9	3.42	27.4	80	28.9	36.1	242
6	11.3	4.54	32	73	31	36	180
7	8.2	2.91	22.2	84.1	28.1	35.4	219
8	9.0	3.02	25.4	83.2	29.9	35.3	257
9	7.6	3.15	21.5	68.2	24.1	35.3	244
10	8.2	3.7	23.6	63.9	20.2	34.7	310
11	5.2	2.8	13.7	49.1	18.6	38	280
12	6.8	3.77	20.3	53.8	18.0	33.5	87
13	10.5	3.55	28.9	81.3	29.6	36.3	397
14	12.5	4.04	34.4	83.2	30.5	36.3	257
15	10.8	5.24	32.3	61.6	20.1	33.4	500
16	12.5	4.24	34.1	80.7	29.9	36.5	387
17	9.1	3.22	27.1	89.2	28.3	33.6	328
18	12.5	4.04	34.4	85.2	30.9	36.3	257
19	10.8	5.24	32.3	61.6	20.6	33.4	580
20	11.2	4.4	31	69	26	37	286
21	12.8	4.55	35.4	77.7	28.1	36.2	533
22	10.9	4.59	30.4	66.3	23.7	35.9	191
23	10.8	3.5	29.1	83.2	30.9	37.9	401
24	11.2	4.13	31.3	75.8	27.1	35.8	227
25	8.0	3.58	23	77.2	18.9	34.8	160
Min.	5.2	2.8	13.7	49.1	18	33.4	87
Max.	12.8	5.24	35.4	89.2	31	38	580
Mean	10.13	3.86	28.41	74.65	26.33	35.67	298.04
SD	2.01	0.65	5.45	10.62	4.53	1.26	115.90

Table 18: Group IIIb [Liver enlargement + Fever + Spleen enlargement] [3-6 years].

No. of cases	Hb g/dl g/dl	RBCs $\times 10^{12}/L$	Hct %	MCV FL	MCH Picogram	MCHC gm/100 ml	Platelets $\times 10^9/L$
1	10.4	4.05	28.7	70.8	25.2	36.2	182
2	9.9	3.8	27.7	72	26	33	350
3	6.4	1.7	16.0	95	37	39	440
4	11.7	5.04	33.4	66.1	25.1	35.1	318
5	7.9	4.01	22.3	55.6	19.7	35.3	372
6	8.1	3.36	23.3	69.3	24.1	34.8	217
7	7.6	2.82	21.3	75.6	27.0	35.7	213
8	11.9	4.41	34.6	78.5	27.3	34.4	480
9	10	3.62	30	77	27.9	35.1	73
10	5.8	2.4	16.9	69.4	20	30	104
11	5.1	2.25	19	68.2	18	29	82
12	7.7	2.79	22	77.9	19.1	35.1	65
13	6.5	2.9	16	66.1	16.3	33.1	100
14	7.7	4.07	21	59	22	34.1	40
15	6.8	2.88	20	66.3	20	31.1	50
Min.	5.1	1.7	16	55.6	16.3	29	40
Max.	11.9	5.04	34.6	95	37	39	480
Mean	8.23	3.34	23.48	71.12	23.64	34.07	179.33
SD	2.09	0.91	6.04	9.27	5.23	2.54	141.1

Table 19 : Group Ia [Liver enlargement] (one year).

Case No.	TLC x 10 ⁹ /L	B %	E %	St %	Seg %	L %	M %
1	6.3	0	0	2	30	64	4
2	9.0	0	0	8	20	68	4
3	8.4	0	4	14	32	44	6
4	5.8	0	2	6	12	78	2
5	13.9	0	0	2	22	74	2
6	9.3	0	2	2	25	69	2
7	9.0	0	2	5	13	76	4
8	8.0	0	2	4	20	68	6
9	6.0	0	0	2	24	70	4
Min.	5.8	0	0	2	12	44	2
Max.	13.9	0	4	14	32	78	6
Mean	8.79	0	2.67	5.67	23.5	66.17	3.33
SD	2.89	0	1.15	4.80	7.26	11.9	1.63

Table 20: Group IIa [Liver enlargement + Fever] (one year).

Case No.	TLC x 10 ⁹ /L	B %	E %	St %	Seg %	L %	M %
1	10.5	0	0	2	36	60	2
2	9.1	0	0	8	20	70	2
3	13.9	0	4	8	32	54	2
4	7.0	0	4	2	10	82	2
5	9.8	0	2	2	20	75	1
6	9.0	0	2	2	18	76	2
7	10.0	0	4	8	30	56	2
8	7.0	0	4	4	30	58	4
9	9.0	0	0	2	26	68	4
Min.	7	0	0	2	10	54	1
Max.	13.9	0	4	8	36	82	4
Mean	10.06	0	2	2	23.6	68.2	1.8
SD	2.51	0	2	2	10.43	11.28	0.45

Table 21: Group IIIa [Liver enlargement+ fever + Spleen enlargement] (one year).

Case No.	TLC x 10 ⁹ /L	B %	E %	St %	Seg %	L %	M %
1	4.8	0	1	2	11	80	6
2	5.0	0	1	2	40	55	2
3	6.0	0	1	3	30	60	6
4	8.9	0	4	0	24	70	2
5	7.0	0	1	4	13	77	5
6	5.0	0	1	3	14	80	2
7	6.0	0	2	0	20	76	2
8	8.0	0	1	2	14	77	6
9	8.0	0	4	2	16	73	5
Min.	4.8	0	1	0	11	55	2
Max.	8.9	0	4	4	40	80	6
Mean	6.34	0	1.6	2.2	23.6	68.4	4.4
SD	1.68	0	1.34	1.48	12.05	10.74	2.3

Table 22: Group Ib [Liver enlargement] (3-6 years).

Case No.	TLC x 10 ⁹ /L	B %	E %	St %	Seg %	L %	M %
1	9.4	0	0	4	45	49	2
2	18.0	0	1	4	13	77	5
3	7.3	0	2	6	44	46	2
4	9.3	0	2	1	29	64	4
5	14.3	0	3	2	28	64	3
6	10.3	0	1	2	28	65	4
7	4.5	0	0	10	24	60	6
8	9.8	0	0	4	34	60	2
9	10.8	0	0	1	20	71	8
10	7.4	0	2	4	16	74	4
11	9.0	0	2	4	28	64	2
12	5.0	0	0	10	20	64	6
13	8.5	0	8	7	30	53	2
14	8.4	0	0	6	46	46	2
15	15.0	0	6	10	20	60	4
16	11.0	0	4	2	25	65	4
17	4.0	0	0	2	35	58	5
18	5.1	0	8	6	20	60	6
19	5.0	0	12	8	36	42	2

Table 22: Group Ib [Liver enlargement] (3-6 years) (continued).

Case No.	TLC x 10 ⁹ /L	B %	E %	St %	Seg %	L %	M %
20	4.2	0	0	2	15	78	5
21	18.0	0	0	8	12	79	1
22	3.6	0	2	6	22	69	1
23	8.7	0	10	2	30	50	8
24	7.0	0	0	2	30	64	4
25	17.6	0	0	8	20	70	2
26	7.0	0	0	4	54	38	4
27	8.5	0	0	5	35	55	5
28	3.2	0	8	15	50	22	5
29	10.0	0	0	5	10	81	4
30	10.3	0	1	5	60	30	4
31	5.5	0	1	9	60	28	2
32	3.5	0	2	8	58	25	7
33	6.0	0	0	15	50	30	5
Min.	3.2	0	0	1	10	22	1
Max.	18.0	0	12	15	60	81	8
Mean	8.66	0	2.27	5.67	31.33	56.33	4
SD	4.18	0	3.33	3.62	14.48	16.5	1.85

Table 23: Group IIb [Liver enlargement + fever] (3-6 years).

Case No.	TLC $\times 10^9/L$	B %	E %	St %	Seg %	L %	M %
1	8.6	0	2	0	36	58	4
2	8.4	0	2	12	26	54	6
3	11.7	0	10	1	20	65	4
4	8.6	0	2	0	36	58	4
5	8.4	0	2	4	26	62	6
6	4.6	0	0	10	54	34	2
7	17.5	0	3	4	31	60	2
8	4.4	0	2	6	32	56	4
9	7.6	0	2	4	20	72	2
10	16.5	0	4	4	24	66	2
11	7.7	0	2	10	30	56	2
12	3.6	0	0	2	20	76	2
13	17.2	0	2	6	18	70	4
14	7.1	0	2	2	23	68	5
15	15.2	0	2	6	22	70	0
16	14.1	0	2	6	12	78	2
17	10.8	0	0	0	15	80	5
18	7.2	0	0	2	20	77	1
19	15.2	0	3	7	20	62	8
20	5.1	0	0	4	37	55	4
21	8.5	0	6	2	27	60	5
22	8.2	0	6	2	21	65	6
23	10.0	0	2	2	41	52	3
24	8.2	0	5	5	27	55	8
25	5.1	0	15	10	30	40	5
Min.	3.6	0	0	0	12	34	0
Max.	17.5	0	15	12	54	80	8
Mean	9.58	0	3.16	4.44	26.6	62.32	3.6
SD	4.16	0	3.50	3.38	9.36	11.13	1.90

Table 24: Group IIIb [Liver enlargement + Fever + Spleen enlargement] (3-6 years).

Case No.	TLC x 10 ⁹ /L	B %	E %	St %	Seg %	L %	M %
1	6.7	0	2	18	40	35	5
2	8.5	0	2	2	46	46	4
3	3.5	0	0	2	18	80	0
4	3.1	0	4	0	30	62	4
5	4.7	0	0	4	24	70	2
6	6.0	0	10	8	30	48	4
7	6.3	0	2	8	30	56	4
8	7.6	0	12	16	38	32	2
9	5.4	0	2	2	61	33	2
10	3.7	0	0	12	20	66	2
11	9.6	0	3	25	22	48	2
12	3.2	0	10	0	54	34	2
13	3.5	0	0	20	21	52	7
14	7.1	0	0	1	19	78	2
15	2.9	0	12	5	51	22	10
Min.	2.9	0	0	0	18	22	0
Max.	9.6	0	12	25	61	80	10
Mean	5.45	0	3.93	8.2	33.6	50.73	3.47
SD	2.15	0	4.61	8.12	14.01	17.83	2.47

Table 25: Group Ia [Liver enlargement] (one year).

Case No.	Abs.PMNLs/ μ l	NBT %	Abs. Lymphocyte/ μ l	CMV IgM : Index
1	2016	4%	4032	+ ve 0.739
2	2700	5%	6120	- ve 0.204
3	4200	7%	3696	- ve 0.127
4	1276	3%	4524	- ve 0.327
5	3336	6%	10286	- ve 0.138
6	2697	5%	6417	- ve 0.259
7	2430	5%	6840	- ve 0.126
8	1520	3%	5440	- ve 0.326
9	1560	4%	4200	- ve 0.259
Min.	1276	3%	3696	-
Max.	4200	7%	10286	-
Mean	2704.17	5	5846.33	-
SD	1014.89	1.41	2440.37	-
% Positivity	--	--	--	11.1 %

Table 26: Group IIa [Liver enlargement + Fever] (one year).

Case No.	Abs.PMNLs/ μ l	NBT %	Abs. Lymphocyte/ μ l	CMV IgM : Index
1	3990	6%	6300	- ve 0.241
2	2548	3%	6370	- ve 0.316
3	5560	2%	7506	+ ve 0.7
4	840	1%	5740	- ve 0.105
5	2156	1%	7350	- ve 0.114
6	1800	2%	6840	- ve 0.315
7	3800	2%	5600	- ve 0.195
8	2380	3%	4060	+ ve 0.508
9	2520	2%	6120	- ve 0.317
Min.	840	1%	4060	-
Max.	5560	6%	7506	-
Mean	3018.8	2.6	6653.2	-
SD	1810.67	2.07	750.28	-
% of positivity	-	-	-	22.2%

Table 27: Group IIIa [Liver enlargement + Fever + Spleen enlargement] (one year).

Case No.	Abs.PMNLs/ μ l	NBT %	Abs. Lymphocyte/ μ l	CMV IgM : Index
1	624	0.4%	3840	+ ve 1.2
2	2000	1%	2750	- ve 0.268
3	1800	0.9%	3600	- ve 0.235
4	2136	0.8%	6230	- ve 0.219
5	910	1%	5390	- ve 0.277
6	500	1%	4000	- ve 0.218
7	1200	0.8%	4560	- ve 0.266
8	1280	0.9%	6160	- ve 0.462
9	1440	1%	5840	+ ve 0.528
Min.	500	0.4%	2750	-
Max.	2136	1%	6230	-
Mean	1494.00	0.82	4362.00	-
SD	681.87	0.25	1414.03	-
% Of positivity	-	-	-	22.2%

Table 28: Group Ib [Liver enlargement] (3-6 years).

Case No.	Abs.PMNLs/ μ l	NBT %	Abs. Lymphocyte/ μ l	CMV IgM : Index
1	4606	5%	4606	+ ve 3.322
2	3060	4%	13860	- ve 0.417
3	3650	4%	3358	- ve 0.326
4	2790	3%	5952	- ve 0.358
5	4290	5%	9152	+ ve 0.509
6	3090	4%	6695	+ ve 0.606
7	1530	2%	2700	- ve 0.242
8	3724	6%	5880	+ ve 1.631
9	2268	6%	7668	+ ve 1.164
10	1480	4%	5476	+ ve 0.654
11	2880	4%	5760	- ve 0.066
12	1500	4%	3200	- ve 0.227
13	3145	4%	4505	- ve 0.237
14	4368	3%	3864	- ve 0.306
15	4030	5%	9300	+ ve 0.894
16	2970	3%	7150	- ve 0.288
17	1480	2.5%	2320	- ve 0.344
18	1326	2%	3060	- ve 0.308
19	2200	5%	2100	- ve 0.095

Table 28: Group Ib [Liver enlargement] (3-6 years) (continued).

Case No.	Abs.PMNLs/ μ l	NBT %	Abs. Lymphocyte/ μ l	CMV IgM : Index
20	714	1%	3276	- ve 0.261
21	3600	3%	14220	+ ve 0.701
22	1008	3%	2484	- ve 0.140
23	2784	4%	4350	- ve 0.268
24	2240	5%	4480	- ve 0.326
25	4928	4%	12460	+ ve 1.164
26	4060	5%	2660	- ve 0.322
27	3400	5%	4675	+ ve 1.30
28	2080	3%	704	- ve 0.127
29	1500	3%	8100	- ve 0.270
30	6695	5%	3050	+ ve 1.980
31	3795	4%	1430	- ve 0.241
32	2310	6%	875	- ve 0.240
33	3900	5%	1800	- ve 0.114
Min.	714	1%	704	-
Max.	6695	6%	14220	-
Mean	2951.82	3.95	5188.18	-
SD	1310.97	1.23	3492.77	-
% Of positivity	-	-	-	33.3%

Table 29: Group IIb [Liver enlargement + Fever] (3-6 years).

Case No.	Abs.PMNLs/ μ l	NBT %	Abs. Lymphocyte/ μ l	CMV IgM : Index
1	3090	3%	4988	- ve 0.266
2	3192	2%	4536	- ve 0.175
3	2457	2%	7605	+ ve 0.894
4	3096	3%	4988	- ve 0.266
5	2520	3%	5208	- ve 0.175
6	2944	4%	1564	- ve 0.361
7	6125	5%	10500	+ ve 0.533
8	1672	2%	2464	- ve 0.127
9	1824	2%	5472	+ ve 0.894
10	4620	5%	10890	+ ve 1.854
11	3080	3%	4312	- ve 0.222
12	792	1%	2736	- ve 0.259
13	4128	2%	12040	+ ve 0.810
14	1775	3%	4828	- ve 0.127
15	4256	4%	10640	+ ve 0.739
16	2256	3%	10998	- ve 0.139
17	1620	2%	8640	+ ve 0.729
18	1584	3%	5544	- ve 0.127
19	4104	4%	10336	+ ve 0.738
20	2091	3%	2805	- ve 0.138
21	2465	3%	5330	+ ve 0.811
22	1804	2%	5355	+ ve 0.751
23	4300	4%	5200	- ve 0.225
24	2624	3%	4500	- ve 0.332
25	2040	3%	2040	- ve 0.222
Min.	792	1%	1564	-
Max.	4620	5%	12040	-
Mean	2818.24	2.96	6139.6	-
SD	1216.45	0.98	3144.15	-
% of positivity	-	-	-	40%

Table 30: Group IIIb [Liver enlargement + Fever + Spleen enlargement] (3-6 years).

Case No.	Abs.PMNLs/ μ l	NBT %	Abs. Lymphocyte/ μ l	CMV IgM : Index
1	3886	1%	2345	+ ve 1.997
2	4080	0.5%	3910	- ve 0.273
3	700	0.5%	2800	- ve 0.192
4	930	1%	1922	- ve 0.417
5	1316	2%	3290	- ve 0.195
6	2280	3%	2880	+ ve 0.654
7	2394	3%	3528	+ ve 1.164
8	4104	4%	2432	+ ve 1.127
9	3402	3%	1728	- ve 0.246
10	1148	0.5%	2442	- ve 0.350
11	4512	3%	4600	- ve 0.149
12	1728	2%	1088	- ve 0.261
13	1435	0.5%	1820	+ ve 0.810
14	1420	1%	5538	+ ve 3.1222
15	1624	2%	638	- ve 0.311
Min.	700	0.5%	1728	-
Max.	4512	4%	5538	-
Mean	2330.4	1.8	2730.33	-
SD	1311.68	1.18	1299.16	-
% Of positivity	-	-	-	40%

Table 31: Statistical study of the age group one year.

	Group I	Group II	Group III
RBCs X10¹²/L			
Mean	3.01	3.32	3.73
SD	0.40	0.6	0.99
Range	0.157	0.268	0.439
Hemoglobin g/dl			
Mean	7.93	8.48	9.68
SD	0.87	2.08	1.98
Range	0.354	0.929	0.885
Platelet X10⁹/L			
Mean	267.67	220.6	137.8
SD	50.13	106.78	95.21
Range	20.466	47.753	44.363
TLC X10⁹/L			
Mean	8.79	10.06	6.34
SD	2.89	2.51	1.68
Range	1.179	1.125	3.017
Abs. PMNLs/μl			
Mean	2704.17	3018.8	1494.00
SD	1014.89	1810.67	681.87
Range	414.328	809.758	1349.242
NBT %			
Mean	5	2.6	0.82
SD	1.41	2.07	0.25
Range	0.577	0.927	0.111
Abs. lymphocyte/μl			
Mean	5846.33	6653.2	6362.00
SD	2440.37	750.25	1414.03
Range	996.251	335.536	1843.258
CMV IgM			
% of positivity	11.1%	22.2%	22.2%

Table 32: Statistical study of the age group (3-6) years.

	Group I	Group II	Group III
RBCs X10¹²/L			
Mean	3.91	3.86	3.34
SD	0.67	0.65	0.91
Range	0.117	0.131	0.235
Hemoglobin g/dl			
Mean	10.12	10.13	8.23
SD	1.54	2.01	2.09
Range	0.268	0.402	0.540
Platelet X10⁹/L			
Mean	213.52	298.04	179.33
SD	108.6	115.90	141.1
Range	18.903	23.179	36.431
TLC X10⁹/L			
Mean	8.66	9.58	5.45
SD	4.18	4.16	2.15
Range	0.728	0.832	0.555
Abs. PMNLs/μl			
Mean	2951.82	2818.24	2330.4
SD	1310.97	1216.45	1311.68
Range	230.978	243.146	338.188
NBT %			
Mean	3.95	2.96	1.8
SD	1.23	0.98	1.18
Range	0.218	0.196	0.304
Abs. lymphocyte/μl			
Mean	5188.18	6139.6	2730.33
SD	3492.77	3144.15	1299.16
Range	608.013	628.503	335.442
CMV IgM % of positivity	33.3%	40%	40%

Table 33: Statistical study of hemoglobin Level in subgroup a (age one year)

	Group I Hepatomegaly 7.933	Group II Fever + hepatomegaly 8.4800	Group III Fever + HSM 9.6800
$\bar{X}$			
Group I Hepatomegaly $\bar{X} = 7.933$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 8.4800$	NS	--	--
Group III Fever + HSM $\bar{X} = 9.6800$	NS	NS	--

Children aged below one year table (33) : There is reduction in the hemoglobin level which is statistically insignificant ($P > 0.05$) if we compared the three different groups together. This reduction matches the severity of the disease.

Table 34: Statistical study of hemoglobin Level in subgroup b (3-6 years)

	Group I Hepatomegaly 10.12	Group II Fever + hepatomegaly 10.13	Group III Fever + HSM 8.23
$\bar{X}$			
Group I Hepatomegaly $\bar{X} = 10.12$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 10.13$	NS	--	--
Group III Fever + HSM $\bar{X} = 8.23$	* $P < 0.05$	* $P < 0.05$	-

Children aged 3-6 years table (34) : There is statistical significance ($P < 0.05$) in the reduction of hemoglobin level in group III (fever + HSM) (8.23 ± 2.09) compared to those in group I (liver enlargement) (10.12 ± 1.54) and/or with group II (fever + liver enlargement) (10.13 ± 2.01).

Table 35: Statistical Study of RBCs Count in subgroup a (one year).

	Group I Hepatomegaly $\bar{X} = 3.015$	Group II Fever + hepatomegaly $\bar{X} = 3.324$	Group III Fever + HSM $\bar{X} = 3.734$
Group I Hepatomegaly $\bar{X} = 3.0150$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 3.3240$	NS	--	--
Group III Fever + HSM $\bar{X} = 3.734$	NS	NS	--

In the age of one year table (35) : There is a reduction in the RBCs count, but there is no statistical significance when comparing the three groups together ($P > 0.05$). This reduction matches the severity of the disease.

Table 36: Statistical Study of RBCs Count in subgroup b (3-6 years).

	Group I Hepatomegaly $\bar{X}$	Group II Fever + hepatomegaly 3.86	Group III Fever + HSM 3.34
Group I Hepatomegaly $\bar{X} = 3.91$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 3.86$	NS	--	--
Group III Fever + HSM $\bar{X} = 3.34$	* $P < 0.05$	* $P < 0.05$	--

Children aged 3-6 years table (36) : There is statistical significance ($P < 0.05$) in the reduction of RBCs count in group III (fever + HSM) (3.34 ± 0.91) when comparing them to group I (liver enlargement) (3.91 ± 0.67) and/or group II (fever and liver enlargement) (3.86 ± 0.65).

Table 37: Statistical study of the platelet count in subgroup a (one year).

	Group I Hepatomegaly $\bar{X}$ 267.67	Group II Fever + hepatomegaly 220.6	Group III Fever + HSM 137.8
Group I Hepatomegaly $\bar{X} = 267.67$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 220.6$	NS	--	--
Group III Fever + HSM $\bar{X} = 137.8$	* P< 0.05	NS	--

Children aged below one year showed statistical significance in the slightly decreased number of platelets ($P < 0.05$) in group III (fever +HSM) (137.8 ± 95.21) when comparing them with the group I (liver enlargement) (267.67 ± 50.13).

Table 38: Statistical study of the platelet count in subgroup b (3-6 years).

	Group I Hepatomegaly $\bar{X}$ = 213.51	Group II Fever + hepatomegaly $\bar{X}$ = 298.04	Group III Fever + HSM $\bar{X}$ = 179.33
Group I Hepatomegaly $\bar{X}$ = 213.51	--	--	--
Group II Fever + hepatomegaly $\bar{X}$ = 298.04	* P< 0.05	--	--
Group III Fever + HSM $\bar{X}$ = 179.33	NS	* P< 0.05	--

Children aged 3-6 years table (37), showed statistical significant difference in the number of platelets ($P < 0.05$) in group III (fever + HSM) (179.33 ± 141.096) compared to group I (liver enlargement only) (213.51 ± 108.59) and/or group II (fever + liver enlargement) (298.04 ± 115.89).

Table 39: Statistical study of of TLC subgroup a (one years).

	Group I Hepatomegaly 8.79	Group II Fever + hepatomegaly 10.06	Group III Fever + HSM 6.34
$\bar{X}$			
Group I Hepatomegaly $\bar{X} = 8.79$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 10.06$	NS	--	--
Group III Fever + HSM $\bar{X} = 6.34$	NS	NS	--

The TLC is within the normal range in the 3 groups.
No. two groups are significant at the 0.05 level.

Table 40: Statistical study of of TLC subgroup b (3-6 years).

	Group I Hepatomegaly 8.6576	Group II Fever + hepatomegaly 9.5800	Group III Fever + HSM 5.4533
$\bar{X}$			
Group I Hepatomegaly $\bar{X} = 8.65$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 9.58$	NS	--	--
Group III Fever + HSM $\bar{X} = 5.45$	* P < 0.05	* P < 0.05	--

The TLC is within normal range in the three groups with significant differences ($P < 0.05$) in group III (fever + HSM) (5.45 ± 2.15) compared to group I (hepatomegaly only) (8.6576 ± 4.18) and/or group II (hepatomegaly + fever) (9.58 ± 4.16).

Table 41: Statistical study of absolute PMNLs in subgroup a (one year)

	Group I Hepatomegaly 2704.17	Group II Fever + hepatomegaly 3018.8	Group III Fever + HSM 1494
$\bar{X}$			
group I Hepatomegaly $\bar{X} = 2704.17$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 3018.8$	NS	--	--
Group III Fever + HSM $\bar{X} = 1494.0$	NS	NS	--

The absolute neutrophil count is within normal range in the 3 groups.
No. two groups are significantly different at the 0.05 level.

Table 42: Statistical study of absolute PMNLs in subgroup b (3-6 years)

	Group I Hepatomegaly 2951.82	Group II Fever + hepatomegaly 2818.24	Group III Fever + HSM 2330.4
$\bar{X}$			
Group I Hepatomegaly $\bar{X} = 2951.82$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 2818.24$	NS	--	--
Group III Fever + HSM $\bar{X} = 2330.4$	NS	NS	--

The ANC is within normal range in the 3 groups.
No. two groups are significantly different at the 0.05 level.

Table 43: Statistical study of NBT test in subgroup a (one year).

	Group I Hepatomegaly $\bar{X}$ 5	Group II Fever + hepatomegaly $\bar{X}$ 2.6	Group III Fever + HSM $\bar{X}$ 0.82
group I Hepatomegaly $\bar{X} = 5$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 2.6$	* P< 0.01	--	--
Group III Fever + HSM $\bar{X} = 0.82$	* P< 0.01	NS	--

In the age of one year there is statistical significant difference ($P < 0.01$) in the reduction of the percentage of segmented neutrophils to reduce the dye especially in group III (fever + HSM) (0.82 ± 0.25) when compared to group I (hepatomegaly only) (5 ± 1.41) and/or group II (hepatomegally + fever) (2.6 ± 2.07).

Table 44: Statistical study of NBT test in subgroup b (3-6 years).

	Group I Hepatomegaly 3.95	Group II Fever + hepatomegaly 2.96	Group III Fever + HSM 1.80
$\bar{X}$			
group I Hepatomegaly $\bar{X} = 3.95$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 12.96$	*** P < 0.001	--	--
Group III Fever + HSM $\bar{X} = 1.80$	*** P < 0.001	* P < 0.001	--

There is highly statistical significant difference ($P < 0.001$) in the reduction of the percentage of segmented neutrophils to reduce the dye in the 3 groups : Group I with hepatomegaly (3.95 ± 1.234) and group II with fever + hepatomegaly (2.96 ± 0.978) and group III with fever + HSM (1.80 ± 1.177).

Table 45: Statistical study of absolute lymphocytic count in subgroup a (one year).

	Group I Hepatomegaly 5846.33	Group II Fever + hepatomegaly 6653.2	Group III Fever + HSM 6362.00
$\bar{X}$			
Group I Hepatomegaly $\bar{X} = 5846.33$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 6653.2$	NS	--	--
Group III Fever + HSM $\bar{X} = 6362.00$	NS	NS	--

There is absolute lymphocytosis which is compatible with viral infection.

No. two groups are statistically different at the 0.05 level.

Table 46: Statistical study of absolute lymphocytic count in subgroup b (3-6 years).

$\bar{X}$	Group I Hepatomegaly 5188.18	Group II Fever + hepatomegaly 6139.6	Group III Fever + HSM 2730.73
Group I Hepatomegaly $\bar{X} = 5188.18$	--	--	--
Group II Fever + hepatomegaly $\bar{X} = 6139.6$	*** P < 0.001	--	--
Group III Fever + HSM $\bar{X} = 2730.73$	*** P < 0.001	*** P < 0.001	--

There is statistical significant difference ($P < 0.005$) in group III (fever + HSM) (2730.33 ± 1299.16) when compared with those with group I (liver enlargement only) (5188.18 ± 3492.77) and/or group II with fever and liver enlargement (6139.6 ± 3144.15).

Referring to CMV IgM test, data showed the following :

Totally : 32 cases out of 100 case were CMV IgM + ve.

Group Ia : 11.1 % (1 case out of 9 cases).

Group Ib : 33.3 % (11 cases out of 33 cases).

Group IIa : 22.2 % (2 cases out of 9 cases).

Group IIb : 40 % (10 cases out of 25 cases).

Group IIIa : 22.2 % (2 cases out of 9 cases).

Group IIIb : 40 % (6 cases out of 15 cases).