

Table (1) Age comparison between subgroups

Age (yr) at diagnosis	Number	Group I Hyperglycemia	Group IIb Euglycemia
≥10 years	71	26 (36.6%)	45 (63.4%)
<10 years	38	7 (18.4%)	31 (81.6%)
P value		>0.05	>0.05

- According to sex, there was a statistically significant difference between the two subgroups (p-value 0.001) as shown in table (2).

Table (2) Gender distribution in Group IIa and Group IIb

		Number (%) N=109	Group IIa Hyperglycemia N=33	Group IIb Euglycemia N=76	P-value
Gender	Males	77 (70.6%)	16 (20.7%)	61 (79.3%)	0.001
	Females	32 (29.4%)	17 (53.1%)	15 (46.9%)	

- As regarding blood sugar level in the studied groups there was a significant relationship between group I and group II as shown in table (3)

Table (3): Random blood sugar in the studied groups

Parameter	Group I ALL (n=109)	Group II ALL (n=109)	Group III Control (n=20)	P-value		
				I versus II	I versus III	II versus III
Random blood sugar(mg/dl) Mean ± S.D Range	96 ± 9.79 77- 117	103.3±12.17 77 - 120	99±10.09 80 -115	<0.05	>0.05	>0.05

- Also, there was significant relationship between the two subgroups as shown in tables (4) and (5) and the ratio of patients developed hyperglycemia to euglycemia was 33 (30.3%) to 76(69.7%)

Table (4) Random blood sugar between subgroups on 8th day of induction

Parameter	Group I Hyperglycemia (n=33)	Group IIb Euglycemia (n=76)	Group III Control (n=20)	P-value		
				IIa vs IIb	IIa vs III	IIb vs III
Random blood sugar (mg/dL) Mean ± S.D Range	287 ± 63.8 217 - 412	105.9 ± 12.8 79 - 143	99±10.09 80 -115	< 0.001	< 0.05	>0.05

Table (5) Random blood sugar between subgroups at the end of induction

Parameter	Group IIa Hyperglycemia (n=33)	Group IIb Euglycemia (n=76)	Group III Control (n=20)	P value		
				IIa vs IIb	IIa vs III	IIb vs III
Random blood sugar (mg/dL) Mean ± S.D Range	113.70 ± 6.21 100 - 120	99 ± 11.3 79 – 119	99±10.09 80 -115	< 0.05	> 0.05	>0.05

- According to CBC parameters the study showed significant relationship between patients with white blood cell count $\geq 20 \times 10^9 / L$ and patients with white blood cell count $< 20 \times 10^9 / L$ in group IIa and group IIb at the end of the induction period on the 33rd day with no significance in other CBC parameters on the other hand, peripheral blood juvenile cells at diagnosis were $> 5\%$ and by comparison between peripheral blood juvenile cells in

hyperglycemic and euglycemic cases it showed that there was no significance between the two subgroups on the 8th day of induction treatment but it was significant on 15th day and 33rd day.

Table (6): Conditions of hyperglycemia during the inductive chemotherapy according to peripheral blood cells

Peripheral blood juvenile cells		Number	Group I Hyperglycemia	Group IIb Euglycemia	P-value
8 th day	<1.0×10 ⁹ /L	51	13 (25.5%)	38 (74.5%)	> 0.05
	≥1.0×10 ⁹ /L	58	20 (34.5%)	38 (65.5%)	
15 th day	<1.0×10 ⁹ /L	89	23 (25.8%)	66 (74.2%)	<0.05
	≥1.0×10 ⁹ /L	20	10 (50%)	10 (50%)	
33 day	<1.0×10 ⁹ /L	99	27 (27.3%)	72 (72.7%)	<0.05
	≥1.0×10 ⁹ /L		6 (60%)	4 (40%)	

- Bone marrow aspiration was done at the diagnosis of the 109 patients with ALL and all showed >30% blast cells in bone marrow and by evaluation of bone marrow during the period of induction there was no significant relationship between bone marrow findings at 15th day between the two subgroups but it was significant at 33th P-value < 0.05 as shown in table (7)

Table (7): Conditions of hyperglycemia during the inductive chemotherapy according to bone marrow finding during inductive therapy

	Number of immature cells	Group I Hyperglycemia	Group IIb Euglycemia	P-value
BM finding on 15 th day	17	4 (23.5%)	13(76.5%)	> 0.05
	31	7 (22.6%)	24 (77.4%)	
	61	22 (36%)	39 (64%)	
BM finding on 33 th day	99	27 (27.3%)	72(94.7%)	< 0.05
	5	2 (40%)	3 (60%)	
	5	4 (80%)	1 (20%)	

As regarding renal function tests, we found no significance between the two subgroups