COMPARISON BETWEEN CALGB 8811 PROTOCOL AND DFCI PROTOCOL IN ALL PATIENTS REGARDING THE RATE OF INFECTION AND COMPLETE REMISSION

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Introduction

- Although ALL is rare in adults, there is an increasing incidence with age after the age of 40 years. Eighty – five percent of cases are of B– cell lineage and have an equal sex incidence; there is a male predominance for the 15% of T - cell ALL.[1]
- The clinical presentation of ALL is nonspecific, and thus, patients may present with "B symptoms" , infection, easy bruising/bleeding, dyspnea, and fatigue.[2]
- The diagnosis of ALL requires the presence of 20% or more lymphoblasts in the bone marrow. Further assessment by flow cytometry, morphological studies, immunopheno typing, and cytogenetic testing is important.[2]
- The primary goal of induction therapy is complete eradication of lymphoblasts from the blood, bone marrow, CNS. Complete remission (CR) is currently defined on a morphological basis of less than 5% blasts in the bone marrow in the presence of overall haematological recovery (neutrophils > 1.0×109 /L, platelets > 100×109/L).[3]
- There is no universally agreed induction protocol, but most adult treatment regimens are broadly similar in the drug dosing and scheduling. One of those regimens is CALGB. The Cancer and Leukemia Group B (CALGB) initiated a five-drug induction regimen (protocol 8811).[4] The therapeutic backbone of DFCI Consortium trials included an intensive, multiagent induction phase, 20–30 weeks of asparaginase during post-remission consolidation and frequent vincristine/ corticosteroid pulses during the continuation phase.[5]
- Most induction deaths are due to severe bacterial sepsis, with fungal infection also posing a significant risk during the cycle.[6]

Aim of the work

- The aim of this work was to compare the outcome of CALGB 8811 protocol versus DFCI 85-01 protocol for adult ALL patients regarding CR rate and MRD post induction and the rate of bacterial and fungal infection during induction cycle.

Patients and Methods

Patients:

30 adult acute lymphoblastic leukemia patients were included in this study

Methods:

15 patients received CALGB 8811 induction cycle and 15 patients received DFCI 85-01 induction cycle and BMA with MRD assessment was done for every patient at 28th day of the cycle.

During neutropenic fever in the induction phase of chemotherapy, serum CRP, procalcitonin, galactomannan ag assay were withdrawn and evaluated.

Results

Table 1: Comparison between the two studied groups regarding the post induction CR

Post induction CR	DFCI 85-01 (n = 15)		CALGB 8811 (n = 15)		χ^2	^{FE}p
	No.	%	No.	%		
No	1	6.7	7	46.7	6.136*	0.035*
Yes	14	93.3	8	53.3		

Table 2: Comparison between the two studied groups regarding the post induction MRD

Post induction MRD	DFCI 85-01 (n = 14)		CALGB 8811 (n = 8)		χ^2	^{FE}p
	No.	%	No.	%		
Negative	9	64.3	5	62.5	0.007	1.000
Positive	5	35.7	3	37.5		

Table 3: Comparison between the two studied groups regarding the serum procalcitonin during the period of febrile neutropenia

serum procalcitonin	DFCI 85-01 (n = 11)	CALGB 8811 (n = 12)	U	p
Min. – Max.	0.02 – 13.30	0.01 – 29.0	60.50	0.740
Mean ± SD.	2.58 ± 4.62	4.20 ± 8.10		
Median (IQR)	0.40(0.10 – 1.9)	2.0(0.10 – 4.5)		

Table 4: Comparison between the two studied groups regarding the serum galactomannan during the period of febrile neutropenia.

Serum galactomannan	DFCI 85-01 (n = 11)		CALGB 8811 (n = 12)		χ^2	^{FE}p
	No.	%	No.	%		
Negative	9	81.8	11	91.7	0.491	0.590
Positive	2	18.2	1	8.3		

Conclusion

- The rate of CR was higher in patients receiving DFCI 85-01 than in CALGB 8811 group .
- The rate of bacterial and fungal infection during both induction cycles were comparable to each other

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