Table 2. Correlation between N-RAS mutation and clinical-hematological parameters

Parameter		Mutant N-RAS N = 10	Wild Type N-RAS N = 48	*P*
Gender	Male	18.18%	81.82%	0.828
	Female	16%	84%	
Age (Mean ± SE)		40.20 ± 6.27 year	41.85 ± 2.80 year	0.407
WBC (Mean ± SE)		54.33 ± 9.19 x 10^9/L	31.25 ± 7.64 x 10^9/L.	**0.033**
Hematocrit Percentage (Mean ± SE)		24.50 ± 1.36 %	26.02 ± 0.95 %	0.185
Platelets Count (Mean ± SE)		45.80 ± 15.24 x 10^9/L	47.42 ± 8.12 x 10^9/L	0.463
BM Blast Percentage(Mean ± SE)		56.50 ± 5.12 %	69.31 ± 3.68 %	**0.025**
PB Blast Percentage(Mean ± SE)		38.50 ± 3.74 %	51.23 ± 5.10 %	**0.028**
Complete Remission (CR)		60%	72.92%	0.414
Anemia		80%	58.33%	0.199
Bleeding Tendency		40%	41.67%	0.922
Fever		40%	45.83%	0.736
Weight Loss		30%	8.33%	0.056
Splenomegaly		50%	33.33%	0.318
Hepatomegaly		40%	22.92%	0.262
Lymphadenopathy		20%	18.75%	0.927

BM = bone marrow, PB = peripheral blood

Table 3. Distribution of N-RAS mutations within AML subtype according to FAB classification

FAB Classification	Mutant N-RAS		Wild N-RAS		Number of Cases	*P* value
	No.	%	No.	%		
AML-M0	1	16.67	5	83.33	6	0.969
AML-M1	2	18.18	9	81.82	11	0.926
AML-M2	4	19.05	17	80.95	21	0.784
AML-M3	1	10.00	9	90.00	10	0.837
AML-M4	1	25.00	3	75.00	4	0.67
AML-M5	1	20.00	4	80.00	5	0.864
AML-M6	0	0.00	1	100.00	1	0.605
Total	10	17.24 %	48	82.76 %	58	0.105

Thirty five (60.34%) patients achieved CR, six (10.34%) patients achieved partial remission, fourteen (24.14%) patients failed to achieve CR and there was no data available about 3 (5.17%) patients.Five (50.0%) out of 10 AML patients with mutant N-RAS and 30 (62.5%) out of 48 AML patients with wild type N-RAS achieved CR. One (10.0%) out of 10 AML patients with mutant N-RAS and 5 (10.42%) out of 48 AML patients with wild type N-RAS achieved partial remission. Four (40.0%) out of 10 patients with mutant N-RAS and 10 (20.83%) out of 48 patients with wild type N-RAS failed to achieve CR. No data was available about 3 (6.25%) out of 48 patients with wild type N-RAS. There was no significant difference (*P* = 0.501) in CR rate between patients with mutant and wild type N-RAS.

Discussion

The clinical significance of RAS mutations has not been uniformly established.In current study, N-RAS gene mutations were found in 17.24% of patients with AML. This result confirm previous reports that recognized a frequency of N-RAS