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CLINICAL RELEVANCE OF THE *RUNX1* MUTATION IN EGYPTIAN PATIENTS WITH PRIMARY REFRACTORY ACUTE MYELOID LEUKEMIA

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INTRODUCTION

Primary refractory acute myeloid leukemia (AML) represents a continuing obstacle in clinical management. The Runt-related transcription factor 1 (*RUNX1*) gene is a relatively uncommon mutational target in AML cases.

AIM

This study aims to investigate the role of the *RUNX1* mutation in newly diagnosed refractory AML patients receiving first-line induction chemotherapy.

METHOD

This study involved 50 Egyptian patients with newly diagnosed AML. The control group included 20 patients with newly diagnosed AML who received the conventional first induction chemotherapy with complete remission (CR). The cases group included 30 patients with newly diagnosed AML who received the same conventional first induction chemotherapy protocols but did not respond to the treatment.

RESULTS

RUNXI mutations were found in 13.3% of the examined cases group compared to 5% of the control group. In the cases group, the *RUNXI* mutation was found to be statistically significant *(P=0.01)*. The *RUNX1* mutation and OS were significantly correlated *(P=0.05)*.

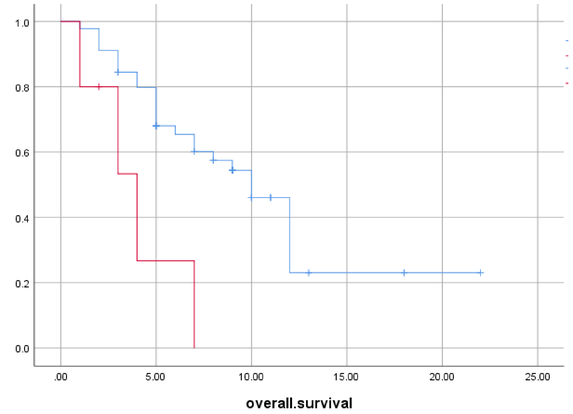


Figure (1): Survival plot of RUNIX mutation in all studied groups (Red line for positive mutation and blue line for negative mutation).

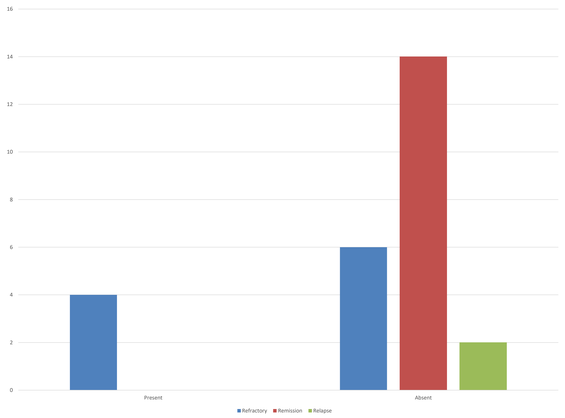


Figure (2): Comparison of the status of disease response with RUNIX mutation in cases group.

CONCLUSIONS

RUNX1 mutations may play a role in resistance to treatment and prognosis in AML. Therefore, measuring the *RUNX1* level provides a new strategy for developing more aggressive treatments for primary refractory AML cases.

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