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ROLE OF BAX AND BCL2 IN THE PROGNOSIS OF ACUTE MYELOID LEUKEMIA IN ADULTS

Gehad Fekry,1 Mohamed Hamdy, 2 Mostafa El Razazz, 3 Heba Hafez4
1,2,3,4 Ain Shams University, Cairo, Egypt

INTRODUCTION

Acute myeloid leukemia (AML) is a fatal hematological disease that occurs due to differentiation arrest and uncontrolled proliferation of immature cells. Malignant cells undergo apoptosis when exposed to some anticancer medications. Therapeutic resistance could lead to suboptimal or absent therapeutic benefit. In a variety of malignancies, BAX , BCL-2, and their ratio have all been identified as prognostic indicators. Regarding AML, however, contradictory findings have been documented.

AIM

Our work investigated the association between *BAX* and *BCL-2* gene expression and their ratio with the therapeutic response in AML.

METHOD

Our prospective study included 55 newly diagnosed AML patients treated in the Hematology Department at Ain Shams University Hospital from January to December 2023 and followed during induction chemotherapy for 1 month. Expression of both BAX and BCL-2 were measured using Thermo Fisher Scientific ELISA kits

RESULTS

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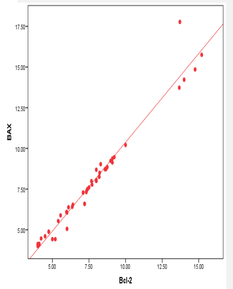


Figure (1):Correlation between BAX and BCL2 levels.

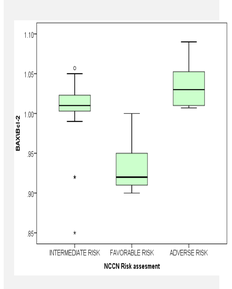


*Figure (2):*Relation of BAX/Bcl-2with NCCN risk assessment.

		BAX P-Value	BCL2 P-Value	BAX/BCL2 P-Value
NCCN risk assessment	**Favorable Intermediate adverse**	**0.001 HS**	**0.001 HS**	**0.001 HS00**
Complication during induction	**Yes no**	**0.035 S**	**0.034 S**	**0.028 S**
Initial response at day 28	**In remission Not in remission died**	**0.02 S**	**0.016 S**	**0.022 S**

CONCLUSIONS

Our results indicate that there was a strong connection between Baxand Bcl-2expression, as well as their ratio, and clinical response after 28days.We recommend further studies of BAX, BCL2and their ratio with larger samples of AML patients with longer periods of follow up.

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CONTACT INFORMATION

Dr. Heba Mohamed Saber Hafez

Mobile :01112785838

Email: hebahafez@med.asu.edu.eg