"Relationship Between HIF-2α Overexpression and Molecular Subtypes of Diffuse Large B-Cell Lymphoma: GCB Versus Non-GCB"

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INTRODUCTION

Diffuse large B-cell lymphoma (DLBCL) is the most frequently diagnosed subtype of non-Hodgkin's lymphoma. It is molecularly stratified into two principal subtypes: Germinal Center B-cell-like (GCB) and Non-Germinal Center B-cell-like (non-GCB), the latter of which is typically associated with less favorable clinical outcomes. Hypoxia-Inducible Factor-2α (HIF-2α), a transcription factor involved in the cellular response to hypoxia, has been found to be upregulated in DLBCL and is implicated in promoting angiogenesis. This suggests its potential utility as a prognostic biomarker. The present study aims to evaluate the relationship between HIF-2α expression and the GCB and non-GCB subtypes of DLBCL. A cross-sectional study design was employed using archived tissue samples from DLBCL patients diagnosed at Dr. Kariadi General Hospital, Semarang, between January and December 2021. Immunohistochemical analysis was conducted to classify the DLBCL subtypes and to assess HIF-2α expression based on staining distribution and intensity. Statistical analysis was performed using the Kruskal-Wallis test to determine differences in HIF-2α expression between the subtypes. Additionally, Spearman's rank correlation test was used to explore the relationship between HIF-2α expression scores and the National Comprehensive Cancer Network International Prognostic Index (NCCN IPI) scores.

RESULTS

The study included 30 cases, comprising 7 (23.3%) of the GCB subtype and 23 (76.6%) of the non-GCB subtype. Analysis using the Kruskal-Wallis test revealed no statistically significant association between HIF-2α expression and DLBCL subtype (p = 0.812). Furthermore, Spearman's correlation analysis indicated no significant correlation between HIF-2α overexpression and NCCN IPI scores in either the GCB (r = 0.219; p = 0.637) or non-GCB (r = -0.194; p = 0.386) subgroups.

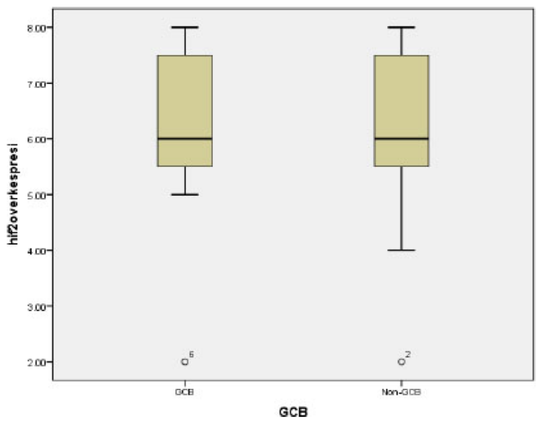

Figure 1 Hif2α overekspression in GCB and Non GCB subtypes of DLBCL

	Variabel	n	rho	p¥
GCB	NCCN IPI	7	0.219	0.637
Non GCB	Overekspression HIF2 α	23	- 0.194	0.386

Table 1. Correlation of NCCN IPI Score and HIF2@ Overexpression Score In DLBCL

CONCLUSION

This study found no significant association between HIF-2α expression and the molecular subtypes of DLBCL. Additionally, HIF-2α expression did not correlate with prognostic risk as measured by the NCCN IPI score in either GCB or non-GCB subtypes. These findings suggest that HIF-2α may not serve as a reliable prognostic marker in the stratification of DLBCL patients.

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