



RELATIONSHIP OF RED CELL DISTRIBUTION WIDTH AND THE PRESENCE AND SEVERITY OF PREECLAMPSIA: A FIVE YEAR RETROSPECTIVE STUDY IN A PERINATAL CENTER

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INTRODUCTION

Preeclampsia is a serious pregnancy-related disease and affects 5-7% of pregnant women each year worldwide. It is one of the common complications of pregnancy which is responsible for 12% of worldwide maternal mortality. However, its pathophysiology remains unclear. Incomplete trophoblastic invasion causing increased pro-inflammatory cells and cytokines is one plausible theory. Red cell distribution width (RDW), is a measure of size of the circulating erythrocytes and is a convenient and inexpensive marker of inflammation. As a marker of inflammation, it is suggested that it can be used as a significant diagnostic and prognostic marker in patient with preeclampsia.

OBJECTIVES

The objective of this study is to determine if there is an association between red cell distribution width and preeclampsia and its severity

METHODS

A retrospective cross sectional study was performed with 162 subjects included in the study during a period of 5 years from January 2014 until December 2018. It is divided into 2 groups: normotensive (control) and preeclampsia group wherein RDW was obtained on both groups.

RESULTS

The mean RDW of the preeclampsia group is 14.72 (SD 2x.82) and for the normotensive group is 13.82 (SD1.68). Mean RDW was statistically higher ($t=0.87$, $p=0.350$) among those with pre-eclampsia. However, comparative analysis using independent t-test indicated that the mean RDW scores of the preeclampsia group divided into severe and non-severe, the two groups were not statistically different ($t=0.26$, $p=0.799$).

CONCLUSION AND RECOMMENDATION

Red cell distribution width is associated with preeclampsia however it cannot be used to predict the severity of the disease. Longitudinal studies are needed to evaluate the predictive value of RDW in the first trimester for subsequent development of preeclampsia.

KEYWORDS: Red cell distribution width (RDW), preeclampsia, hypertension