

OP-D-11

THE RELATIONSHIP BETWEEN HOMA- β DURING ADMISSION WITH POOR OUTCOMES AMONG HOSPITALIZED PATIENTS WITH CONFIRMED COVID-19 IN RSUPN DR. CIPTO MANGUNKUSUMO HOSPITAL

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INTRODUCTION

Many factors affect the severity of infection and mortality of Corona Virus Disease 2019 (COVID-19) infection. The COVID-19 virus is linked to pancreatic beta cell damage, yet the mechanism is still unclear. Diabetes is one of the most common comorbidities of patients with COVID-19 infection. Meta-analyses have also shown that patients with comorbid diabetes are twice as likely to be hospitalized and have three times the risk of mortality. Patients with diabetes theoretically don't have good beta cell function, but there has been no study up until now about beta cell function in patients with COVID-19 with no history of diabetes. The method utilized to assess the secretory function of pancreatic beta cells was the Homeostatic Model Assessment- (HOMA- β).

METHODOLOGY

This is a retrospective cohort study conducted at Cipto Mangunkusumo Hospital (RSCM). Patients with confirmed COVID-19 (mild/moderate) who were hospitalized at the RSCM Kiara Hospital during the period September 2020 – March 2021, with HbA1c <6.5%, and without history of diabetes underwent HOMA- β examination. The cut-off point for both was evaluated, furthermore, the relationship with poor outcomes during hospitalization was assessed.

RESULTS

From 232 subjects who met the inclusion and exclusion criteria, there were 10 (4.3%) subjects with poor outcomes. The median of HOMA- β in the poor outcome group was 70.28% (IQR 32.25 – 132.11) while in the good outcome group was 121.6% (IQR 82.39 – 174.23). The HOMA- β cut-off point was 80% showing AUC 0.702 (95% CI: 0.526-0.879), with sensitivity 60% and specificity 71.4%. The Hazard Ratio (HR) of HOMA- β value <80% was 4.660 ($p = 0.017$).

CONCLUSION

There is a significant relationship between HOMA- β during admission and the poor outcome of hospitalized patients with confirmed COVID-19.

KEYWORDS

COVID-19, beta cells, HOMA-beta, poor outcome