

Abstract Type : Oral

Abstract Submission No. : PO-1352

**HIGH SYSTOLIC BLOOD PRESSURE IS ASSOCIATED WITH SEVERE
COMPLICATION OF END STAGE RENAL DISEASE PATIENTS ON CHRONIC
HEMODIALYSIS IN AN INDONESIAN POPULATION**

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Objectives: End stage renal disease (ESRD) patients undergoing hemodialysis (HD) are prone to suffer from severe health problems including premature death. Risk factors of the complication may vary from one population to another. In this study, we investigate risk factors of hospitalization and mortality in ESRD patients within small Indonesian population.

Methods: This was a single center case-control study of adult ESRD patients who received twice weekly routine HD. The cases were patients underwent chronic HD with all cause hospitalization and mortality between September 1st 2018 to August 31st 2019, while the control group was HD patients which were not hospitalized within the period of time. Social demographic, disease etiology, anthropometric, blood pressure (BP), medication and laboratory data were taken. We calculated both bivariate and multivariate analysis using chi square and logistic regression, respectively. Mantel-Haenzel Odds Ratio (OR) was also done to determined hospitalization risk factors.

Results: A total of 88 (19 cases vs 69 controls) patients were enrolled in this study. The cause of hospitalization mostly due to cardiovascular problems (11/19) followed by infection-related causes. Out of all cases, 10 patients died. Bivariate analysis showed that underlying disease of diabetes mellitus (p : 0.04), chronic heart failure (p : 0.02) and systolic BP of more than 160 mmHg (p : 0.01) are associated with complications. Furthermore, multivariate analysis concluded that higher systolic BP level (p : 0.03, OR 0.192, 95% CI: 0.41 – 0.90) and less than three hypertensive drugs combination (p : 0.04, OR 3.25, 95% CI: 1.03 – 10.212) were the significant risk factors for ESRD severe adverse events that required hospitalization.

Conclusions: In this study, uncontrolled systolic hypertension and sub-optimal combination of anti-hypertension medication are associated with severe health problems and deaths among ESRD patients undergoing routine HD. Controlling blood pressure thus imperative to prevent complications and reduce mortality risk in hemodialysis ESRD patients.