

## ABSTRAC

Association between serum hs-CRP, hepcidin, and iron status levels with serum haemoglobin level target in chronic kidney disease patients on hoemodialysis and erythropoietin therapy

**Background:** Chronic kidney disease (CKD) is an abnormal condition of both kidney function and structure within more than three months that gives damaged effect to the health. One of the kindey complication is an anemia. It relates to reduction of eritrophoetin (EPO) produced by kidney. Therefore, this anemia needs EPO theraphy. Sometimes, EPO therapy is not always successfull because body lack of iron during inflammational condition. This thypically case is called as EPO resistance. In addition, iron is accumulated in the form of ferritin. The accumulation is inhibited by ferroportine, an iron transporter inhibitor that is possibly degraded by hepcidin regulation mechanism. Since the iron metabolism is regulated tightly by hepcidin hormone that increases during inflammation.

**Objectives:** To analyze correlations between serum hepcidin, hs-CRP and iron levels with serum heamoglobin level target in CKD with hemodialysis patients and EPO therapy.

**Metode:** That was an observational cross-sectional research using 23 consecutive sample of CKD patients who had been doing both hemodialysis and EPO therapy in Adi Husada Undaan Wetan Hospital Surabaya. In this research we measured the hepsidin-25 level by ELISA and serum level by using automatic ferritin based on CMIA. The final data were analysed in the significant correlation range  $< 0,05$ .

**Results:** 23 samples were obtained which met the inclusion and exclusion criteria and then performed anaylisis of correlation test. The result shows In the multivariable analyses of the linear regression model, there were not significant correlations between hepcidin, hs-CRP and iron status (ferritin and Transferrin Saturation) levels with haemoglobin levels target ( $p < 0,05$ ). In the bivariate analyses correlation, there was not a significantly correlated between hs-CRP with hepcidin levels in the serum ( $p > 0,05$ ), there was a significantly correlated between hepcidin with ferritine levels in the serum ( $P = 0,002$  and  $R = 0,604$ ), was not a significantly correlated between ferritin with transferrin saturation levels in the serum ( $p > 0,05$ ) and was not a significantly correlated between transferrin saturation levels with haemoglobin levels in the serum ( $p > 0,05$ ).

**Conclusion:** There were not significant correlation between serum hepcidin, hs-CRP and iron levels with serum heamoglobin level target in CKD with hemodialysis patients and EPO therapy.

**Keyword :** Hepsidin, hs-CRP, iron status, heamoglobin, hemodialysis, eritropoetin.