INTISARI

Latar Belakang : Penyakit ginjal tahap akhir (PGTA) adalah kondisi ketika Penyakit Ginjal Kronis (PGK) telah mencapai stadium akhir dan memerlukan terapi pengganti ginjal. Berdasarkan Riskesdas 2018, prevalensi penderita PGK di Indonesia mencapai 0,38% dan diantaranya berkembang menjadi PGTA. Menurut data IRR, 98% pasien PGTA menjalani terapi hemodialisis. Pasien yang menjalani terapi hemodialisis mengalami peningkatan risiko tertular infeksi akibat adanya gangguan sistem imun dan transfusi berulang karena anemia. Infeksi virus hepatitis C (HCV) merupakan infeksi yang sering ditemukan pada pasien PGTA dan merupakan penyebab penting terjadinya penyakit hati pada populasi ini. Anemia pada pasien PGTA dapat disebabkan oleh defisiensi *erythropoietin* (EPO), defisiensi zat besi, dan adanya proses inflamasi. Pada pasien PGTA dengan infeksi hepatitis C yang menjalani hemodialisis rutin, terjadi aktivitas inflamasi yang diduga dapat mempengaruhi respon terhadap pemberian EPO dan proses *erythropoiesis* dengan melihat kadar hemoglobin pasien.

Tujuan : Penelitian ini bertujuan untuk mengetahui perbandingan kadar hemoglobin pada pasien penyakit ginjal tahap akhir dengan hemodialisis yang terinfeksi hepatitis C dan tidak terinfeksi hepatitis C di RSUP Dr. Sardjito Yogyakarta.

Metode : Penelitian ini merupakan studi deskriptif komparatif dengan pendekatan *cross sectional*. Data yang digunakan merupakan data pasien PGTA yang menjalani hemodialisis di RSUP Dr. Sardjito Yogyakarta pada tahun 2019 dengan sampel sebanyak 111. Variabel independen pada penelitian ini merupakan infeksi hepatitis C, sedangkan variabel dependen berupa kadar hemoglobin. Faktor perancu yang dilibatkan meliputi usia, jenis kelamin, lama waktu hemodialisis, kadar besi serum, dan enzim transaminase (AST dan ALT). Kriteria inklusi dari penelitian ini yaitu pasien PGTA dengan hemodialisis, berusia ≥18 tahun, dan menerima pemberian EPO secara rutin. Analisis yang digunakan dalam penelitian ini meliputi analisis univariat dan bivariat dengan uji hipotesis 2 mean independen (*Independent Sample T-Test* atau *Mann Whitney Test*).

Hasil : Dari 111 subjek, terdapat 54 pasien dengan infeksi hepatitis C dan 57 pasien tanpa infeksi hepatitis C. Rata-rata kadar hemoglobin pada kelompok dengan hepatitis C adalah 9,85 (7,00 – 12,57) g/dL, sedangkan pada kelompok tanpa hepatitis C 8,53 (5,43 – 11,70) g/dL (*p-value* = <0,001). Rata-rata usia pada kelompok hepatitis C dan tanpa hepatitis C berturut-turut, 52,17 ± 12,22 dan 49,18 ± 14,49 (*p-value* = 0,244). Rata-rata lama waktu HD pada kelompok hepatitis C dan tanpa hepatitis C berturut-turut, 5,50 (0 – 23) dan 2,00 (0 – 9) (*p-value* = <0,001). Rata-rata kadar besi serum pada kelompok hepatitis C dan tanpa hepatitis C berturut-turut, 61,50 (21 – 188) µg/dL dan 60,00 (23 – 170) µg/dL (*p-value* = 0,492). Rata-rata kadar AST pada kelompok hepatitis C dan tanpa hepatitis C berturut-turut 26,00 (5 – 122) U/L dan 14,00 (4 – 58) U/L (*p-value* = <0,001). Rata-rata kadar ALT pada kelompok hepatitis C dan tanpa hepatitis C berturut-turut 25,50 (6 – 330) U/L dan 13,00 (3 – 40) U/L (*p-value* = <0,001).

Kesimpulan : Perbandingan rata-rata kadar hemoglobin pada pasien PGTA dengan hemodialisis berdasarkan infeksi hepatitis C di RSUP Dr. Sardjito Yogyakarta tahun 2019 menunjukkan adanya perbedaan yang signifikan, dimana kelompok dengan hepatitis C lebih tinggi. Dari faktor perancu, terdapat perbedaan yang signifikan antara variabel lama waktu hemodialisis, AST, dan ALT, sedangkan pada variabel rata-rata usia dan kadar besi serum tidak terdapat perbedaan yang signifikan.

Kata kunci : Penyakit Ginjal Tahap Akhir dengan Hemodialisis, Hepatitis C, Hemoglobin

ABSTRACT

Background: End-Stage Renal Disease (ESRD) is a condition when Chronic Kidney Disease (CKD) has reached its final stage and requires kidney replacement therapy. Based on Riskesdas 2018, the prevalence of CKD sufferers in Indonesia has reached 0.38% and some of them developed into ESRD. According to IRR data, 98% of ESRD patients undergo hemodialysis therapy. Patients undergoing hemodialysis therapy experiences an increased risk of infections due to immune system disorders and repeated transfusions due to anemia. Hepatitis C virus (HCV) infection is an infection that is often found in patients with ESRD and is an important cause of liver disease in this population. Anemia in ESRD patients can be caused by erythropoietin (EPO) deficiency, iron deficiency, and the presence of an inflammatory process. In ESRD patients with hepatitis C infection undergoing routine hemodialysis, inflammatory activity occurred which is thought to affect the response to EPO administration and the process of erythropoiesis by looking at the patient's hemoglobin level.

Objective: This study aims to compare hemoglobin levels in patients with end-stage renal disease on hemodialysis infected with hepatitis C and not infected with hepatitis C at RSUP Dr. Sardjito Yogyakarta.

Methods: This research is a descriptive comparative study with a cross sectional approach. The data used are data from ESRD patients undergoing hemodialysis at RSUP Dr. Sardjito Yogyakarta in 2019 with 111 samples. The independent variable in this study was hepatitis C infection, while the dependent variable was hemoglobin levels. Confounding factors involved include age, sex, length of time on hemodialysis, serum iron levels, and transaminase enzymes (AST and ALT). The inclusion criteria of this study were ESRD patients on hemodialysis, aged ≥18 years, and receiving EPO routinely. The analysis used in this study included univariate and bivariate analysis with hypothesis of 2 independent mean testing (Independent Sample T-Test or Mann Whitney Test).

Results: Of the 111 subjects, there were 54 patients with hepatitis C infection and 57 patients without hepatitis C infection. The average hemoglobin level in the group with hepatitis C was 9.85 (7.00 – 12.57) g/dL, whereas in the group without hepatitis C 8.53 (5.43 – 11.70) g/dL (p-value = <0.001). The mean age in the hepatitis C and without hepatitis C groups were 52.17 ± 12.22 and 49.18 ± 14.49 (p-value = 0.244). The average length of time HD in the hepatitis C and without hepatitis C groups was 5.50 (0 – 23) and 2.00 (0 – 9) respectively (p-value = <0.001). The mean serum iron levels in the hepatitis C and without hepatitis C groups were 61.50 (21 – 188) µg/dL and 60.00 (23 – 170) µg/dL respectively (p-value = 0.492). The average AST levels in the hepatitis C and without hepatitis C groups were 26.00 (5 – 122) U/L and 14.00 (4 – 58) U/L respectively (p-value = <0.001). The average ALT levels in the hepatitis C and without hepatitis C groups were 25.50 (6 – 330) U/L and 13.00 (3 – 40) U/L respectively (p-value = <0.001).

Conclusion: Comparison of the average hemoglobin level in ESRD patients on hemodialysis based on hepatitis C infection at RSUP Dr. Sardjito Yogyakarta in 2019 showed a significant difference, where the group with hepatitis C was higher. From the confounding factors, there was a significant difference between the variables of length of time on hemodialysis, AST, and ALT, while there was no significant difference in the average of age and serum iron levels.

Keywords: End Stage Kidney Disease with Hemodialysis, Hepatitis C, Hemoglobin