

ABSTRACT

Background : Bilirubin direct should be done as soon as possible. The sample storage will be conducted because there is concern that there will be additional screening, making it impossible for the blood to be recovered. Blood sample storage should be in serum form. The resulting denaturing process can cause an increase or decline in color complex after the bilirubin levels in the serum are rehydrated by the reagent used, thus affecting the value of the bilirubin directional levels when reading is done.

Objective : to know the effects of the long storage of the serum of patients chronic kidney disease at temperatures of 2-8°C to direct bilirubin

Method : the research was a pre-experiment using the design of one group pretest posttest. The study was carried out in November 2023 in clinical laboratory of RSUD Sleman Yogyakarta with a total of 40 respondents chronic kidney disease with patients with chronic kidney disease, with inclusion criteria, namely patients with stage 5 kidney chronic disease, routinely undergoing hemodialysis twice a week, HBsAg and HCV results were negative, and the sample there was not icteric, hemolysis and lipemic. Direct bilirubin levels were measured using a Cobas C311 chemical analyzer, with the Jendarsik-Groff diazo method and Roche reagent. Data analysis used the Friedman test and then posthoc test use Wilcoxon to know significant decrease between variable.

Results : the results of the study, on average, bilirubin levels of immediate examination were 0,210 mg/dl, averages of bilirubin 4 hours of storage is 0,212 mg/dl, and 8 hours of storage is 0,215 mg/dl. The results showed that there was no effect of patients serum retention of chronic kidney disease at 2-8 °C temperatures at a rate of bilirubin levels (p value = 0,308). The Wilcoxon posthoc test showed a decrease in direct bilirubin immediately and 4 hours storage (p value = 0,939) with 8 hour storage (p value=0,230)

Conclusion : There is no significant effect of storage patients serum of chronic kidney disease at 2-8° C temperatures on direct bilirubin.

Keywords : direct bilirubin, denaturate, storage

ABSTRAK

Latar Belakang : Pemeriksaan bilirubin direk harus dilakukan sesegera mungkin. Penyimpanan sampel pasien gagal ginjal kronik akan dilakukan karena dikhawatirkan akan ada tambahan pemeriksaan . Proses denaturasi yang terjadi dapat menyebabkan peningkatan atau penurunan kompleks warna yang terbentuk setelah kadar bilirubin direk dalam serum direaksikan oleh reagen yang digunakan, sehingga mempengaruhi nilai kadar bilirubin direk saat dilakukan pembacaan.

Tujuan : Untuk mengetahui pengaruh lama penyimpanan serum pasien gagal ginjal kronik pada suhu 2-8^oC terhadap kadar bilirubin direk

Metode: Penelitian ini adalah pra eksperimen dengan menggunakan rancangan *one group pretest posttest*. Penelitian ini dilaksanakan pada bulan November 2023 di laboratorium kimia klinik RSUD Sleman Yogyakarta. Sampel dengan jumlah 40 responden pasien gagal ginjal kronik dengan kriteria inklusi yaitu pasien gagal ginjal stadium 5, rutin menjalani hemodialisa 2 kali dalam seminggu, hasil HbsAg dan HCV negatif, dan sampel tidak ikterik, hemolisis dan lipemik. Pengukuran kadar bilirubin direk menggunakan alat kimia analyzer cobas c311, dengan metode diazo jendarsik-groff dan reagen roche. Analisis data menggunakan uji Friedman yang kemudian dilanjutkan uji posthoc yaitu Wilcoxon untuk melihat signifikansi peningkatan antar variabel.

Hasil : Hasil Penelitian didapatkan rata-rata kadar bilirubin direk pemeriksaan segera adalah 0,210 mg/dl penyimpanan 4 jam adalah 0,212 mg/dl dan penyimpanan 8 jam adalah 0,215 mg/dl. Hasil penelitian menunjukkan tidak ada pengaruh lama penyimpanan serum pasien gagal ginjal kronik pada suhu 2-8^o C terhadap kadar bilirubin direk (*p* value=0,308). Uji posthoc Wilcoxon menunjukkan adanya penurunan kadar bilirubin direk antara pemeriksaan segera dengan penyimpanan 4 jam sebesar (*p* value=0,939) dengan penyimpanan 8 jam sebesar (*p* value=0,230).

Kesimpulan : Tidak ada pengaruh yang signifikan pada lama penyimpanan serum pasien gagal ginjal kronik pada suhu 2-8^o C terhadap kadar bilirubin direk.

Kata kunci : bilirubin, denaturasi, penyimpanan