

MAGNESIUM LEVELS IN SERUM OF CHRONIC RENAL FAILURE
PATIENTS EXAMINED IMMEDIATELY, AFTER STORAGE FOR 4 HOURS
AND 8 HOURS AT 2-8°C

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ABSTRACT

Background: Delays in laboratory testing can occur between sample collection and analysis. Sample storage conditions both before and after centrifugation are critical to maintaining sample integrity. Storage conditions occur due to transportation distance to the laboratory and clinicians requesting additional analysis. Additional tests are requested so that the patient does not have to wait for the phlebotomy process or avoid another venous puncture. Specimens that are not immediately examined can be stored in a refrigerator at 2-8°C for several days of stability.

Objective: To determine the difference in serum magnesium levels in chronic renal failure patients who were examined immediately, after being stored for 4 hours and 8 hours at 2-8°C.

Methods: This type of research is a pre-experiment design with a one group pretest posttest design. The study population was chronic renal failure patients undergoing hemodialysis at Sleman Hospital. Samples with a total of 34 people. Blood samples obtained were separated into serum into 3 microtubes to be examined immediately, stored 4 and 8 hours. Magnesium levels were examined with Cobas C311 analyzer with photometric method. The data obtained were analyzed descriptively and statistically.

Results: The mean magnesium level immediately examined was 2.16 mg/dL, after 4 hours storage was 2.18 mg/dL and after 8 hours storage was 2.20 mg/dL. The percentage of normal magnesium levels is 97.1% and above normal is 2.9%. The results of statistical analysis using Repeated Measure ANOVA Test (Sphericity Assumed) showed p value (0.277) > 0.05.

Conclusion: Magnesium levels in the serum of chronic renal failure patients examined immediately, after being stored for 4 hours and 8 hours at a temperature of 2-8°C there is no difference.

Keywords: Chronic Renal Failure, Serum, Stored, Magnesium Levels

KADAR MAGNESIUM PADA SERUM PASIEN GAGAL GINJAL KRONIK YANG DIPERIKSA SEGERA, SETELAH DISIMPAN SELAMA 4 JAM DAN 8 JAM PADA SUHU 2-8°C

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ABSTRAK

Latar Belakang: Penundaan pemeriksaan laboratorium dapat terjadi diantara pengambilan sampel dan analisis. Kondisi penyimpanan sampel baik sebelum maupun sesudah sentrifugasi sangat penting untuk menjaga keutuhan sampel. Kondisi penyimpanan terjadi karena diantaranya adanya jarak transportasi ke laboratorium dan klinisi meminta analisis tambahan. Tes tambahan diminta agar pasien tidak perlu menunggu proses flebotomi atau menghindari pungsi vena lain. Spesimen yang tidak langsung diperiksa dapat disimpan dalam lemari es dengan suhu 2-8°C sehingga stabilitas dapat bertahan beberapa hari.

Tujuan: Mengetahui perbedaan kadar magnesium serum pada pasien gagal ginjal kronik yang diperiksa segera, setelah disimpan selama 4 jam dan 8 jam pada suhu 2-8°C.

Metode: Jenis penelitian ini adalah pra eksperimen dengan rancangan *one group pretest posttest*. Populasi penelitian adalah pasien gagal ginjal kronik yang menjalani hemodialisa di RSUD Sleman. Sampel dengan jumlah 34 orang. Sampel darah yang didapatkan dipisahkan serumnya ke dalam 3 *microtube* untuk diperiksa segera, disimpan 4 dan 8 jam. Kadar magnesium diperiksa dengan alat Cobas C311 *analyzer* dengan metode fotometri. Data yang diperoleh dianalisis secara deskriptif dan statistik.

Hasil: Rerata kadar magnesium segera diperiksa sebesar 2,16 mg/dL, setelah disimpan 4 jam sebesar 2,18 mg/dL dan setelah disimpan 8 jam sebesar 2,20 mg/dL. Persentase kadar magnesium normal adalah 97,1% dan diatas normal adalah 2,9%. Hasil analisis statistik menggunakan Uji *Repeated Measure ANOVA (Sphericity Assumed)* menunjukkan nilai $p (0,277) > 0,05$.

Kesimpulan: Kadar magnesium pada serum pasien gagal ginjal kronik yang diperiksa segera, setelah disimpan selama 4 jam dan 8 jam pada suhu 2-8°C tidak terdapat perbedaan.

Kata Kunci: Gagal Ginjal Kronik, Serum, Disimpan, Kadar Magnesium