ABSTRAK

Latar Belakang : Hasil pelayanan laboratorium secara keseluruhan terletak pada mutu pemeriksaan atau parameter yang diperiksa. Kontribusi kesalahan terbesar adalah pada tahapan pra analitik, salah satunya adalah hemolisis (53,2%). Hemolisis bisa terjadi pada berbagai proses pra analitik, mulai dari saat flebotomi, pengantaran sampel, preparasi sampel, dan penyimpanan. Hemolisis mempengaruhi hasil pemeriksaan kimia darah salah satunya kadar magnesium.
Tujuan Penelitian : Untuk mengetahui pengaruh hemolisis dalam serum terhadap hasil pemeriksaan kadar magnesium.
Metode penelitian : Jenis penelitian yang digunakan adalah eksperimen murni (*true experiment*) dengan desain penelitian rancangan *posttest only control group design*. Sampel yang digunakan pada penelitian ini adalah *pooled* serum yang kemudian dibagi menjadi 6 kelompok. Setiap kelompok dibuat 500 µL campuran yang masing-masing ditambah hemolisat (kadar hemolisat 4750 mg/dL) sebanyak 0 µL, 6 µL, 13 µL, 19 µL, 25 µL dan 32 µL sehingga didapatkan kadar hemoglobin dalam campuran yaitu 0 mg/dL, 57 mg/dL, 123,5 mg/dL, 180,5 mg/dL, 237,5 mg/dL, 304 mg/dL. Data yang diperoleh sebanyak 42 data, yang selanjutnya dilakukan analisis deskriptif dan analisis statistik menggunakan SPSS.
Hasil Penelitian : Hasil analisis deskriptif menunjukkan adanya peningkatan rerata kadar magnesium pada serum yang mengalami hemolisis. Analisis statistik menunjukkan ada perbedaan kadar magnesium yang mengandung hemoglobin 0 mg/dL, 57 mg/dL, 123,5 mg/dL, 180,5 mg/dL, 237,5 mg/dL, 304 mg/dL. Perbedaan signifikan terjadi pada hemolisis berat dengan kadar hemoglobin 304 mg/dL.
Kesimpulan : Ada pengaruh hemolisis dalam serum terhadap hasil pemeriksaan kadar magnesium. Semakin tinggi kadar hemoglobin dalam serum, hasil pemeriksaan kadar magnesium semakin tinggi.

Kata kunci : Hemolisis, Kadar Hemoglobin, Kadar Magnesium

ABSTRACT

Background : The result of laboratory services as a whole lies in the quality of the examination or the parameters being examined. The biggest error contribution is in the pre-analytic stage, one of which is hemolysis (53.2%). Hemolysis can occur in various pre-analytical processes, from phlebotomy, sample delivery, sample preparation, and storage. Hemolysis affects the results of blood chemistry examinations, one of which is magnesium levels.
Research Objectives: To determine the effect of hemolysis in serum with different variations in hemoglobin levels on the results of examination of magnesium levels.
Research method : The type of research was a true experiment with a posttest only control group design. Sample used in this research was pooled serum and each was divided into 6 groups. Each group was made of 500 µL of the mixture serum and hemolysate, each group added with hemolysate (4750 mg/dL) as much as 0 µL, 6 µL, 13 µL, 19 µL, 25 µL and 32 µL so that the hemoglobin concentration in the mixture was 0 mg/dL, 57 mg/dL, 123.5 mg/dL, 180.5 mg/dL, 237.5 mg/dL, 304 mg/dL. Data on the magnesium levels examination obtained 42 data, then the data were analyzed by descriptive analysis and statistical analysis using SPSS.
Research Results : Results of the descriptive analysis showed the average level of magnesium in the hemolysis serum increased. Statistical analysis showed that there were differences in levels of magnesium which containing hemoglobin 0 mg/dL, 57 mg/dL, 123.5 mg/dL, 180.5 mg/dL, 237.5 mg/dL, 304 mg/dL. Significant differences occurred in severe hemolysis with hemoglobin levels of 304 mg/dL.
Conclusion : There is an effect of hemolysis in serum on the results of magnesium examination. High level of hemoglobin in the serum can cause the magnesium level will also increase.

Keywords : Hemolysis, hemoglobin level, Magnesium level