

DIFFERENCES IN URIC ACID TEST RESULTS USING THE URICASE-PAP METHOD IN NON-HEMOLYZED SERUM AND MILDLY HEMOLYZED SERUM

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ABSTRACT

Background: Hemolysis is a pre-analytical factor that frequently occurs in laboratory settings and can affect the results of clinical chemistry examinations, including uric acid levels using the Uricase-PAP method. The presence of free hemoglobin in hemolyzed serum may lead to inaccurate examination results.

Objective: To determine the difference in uric acid levels between non-hemolyzed serum and mildly hemolyzed serum through descriptive and statistical analysis.

Methods: This study used a quantitative approach with a Quasi-Experimental Design and a Posttest-Only Control research design. Uric acid examination data were analyzed both descriptively and statistically.

Results: The findings of this study indicate a difference in the mean uric acid examination results between the two groups. The mean uric acid level in non-hemolyzed serum was 3.7657 mg/dL, whereas the mean uric acid level in mildly hemolyzed serum was 3.9571 mg/dL, yielding a mean difference of 0.1914 mg/dL. Statistical analysis revealed a significance value of 0.003 (< 0.05), confirming a statistically significant difference in uric acid levels between non-hemolyzed serum and mildly hemolyzed serum.

Conclusion: There is a significant difference in uric acid examination results between non-hemolyzed serum and mildly hemolyzed serum, with mildly hemolyzed serum producing higher uric acid levels.

Keywords: Hemolysis, Non-Hemolysis, Free Hemoglobin, Uric Acid Levels.

PERBEDAAN HASIL PEMERIKSAAN ASAM URAT METODE URICASE-PAP PADA SERUM NON HEMOLISIS DAN SERUM HEMOLISIS RINGAN

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ABSTRAK

Latar Belakang: Hemolisis merupakan faktor pra-analitik yang sering terjadi di laboratorium dan dapat mempengaruhi hasil pemeriksaan kimia klinik, termasuk kadar asam urat metode Uricase-PAP. Adanya hemoglobin bebas pada serum hemolisis dapat menyebabkan hasil pemeriksaan menjadi tidak akurat.

Tujuan Penelitian: Mengetahui perbedaan kadar asam urat pada serum non hemolisis dan serum hemolisis ringan secara analisis deskriptif dan statistik.

Metode Penelitian: Jenis penelitian yang digunakan dalam penelitian ini adalah pendekatan kuantitatif dengan rancangan *Quasi-Experimental Design* dengan desain penelitian *Posttest-Only Control*. Data hasil pemeriksaan asam urat dianalisis secara deskriptif dan statistik.

Hasil Penelitian: Hasil penelitian ini menunjukkan adanya perbedaan rerata hasil pemeriksaan kadar asam urat. Kadar asam urat pada serum non hemolisis memiliki rata-rata 3,7657 mg/dL, sedangkan kadar asam urat pada serum hemolisis ringan memiliki rata-rata 3,9571 mg/dL. Dari rata-rata kedua kelompok sampel tersebut terdapat selisih rerata sebesar 0,1914 mg/dL. Analisis statistik menunjukkan nilai signifikansi 0,003 ($< 0,05$) ada perbedaan kadar asam urat pada serum non hemolisis dan serum hemolisis ringan.

Kesimpulan: Terdapat perbedaan hasil pemeriksaan kadar asam urat pada serum non hemolisis dan serum hemolisis ringan menunjukkan hasil pemeriksaan kadar asam urat yang lebih tinggi.

Kata Kunci: Hemolisis, Non Hemolisis, Hemoglobin Bebas, Kadar Asam Urat.