

**PENGARUH HEMOLISIS TERHADAP AKTIVITAS ALANINE
AMINOTRANSFERASE (ALT) PADA SAMPEL PLASMA EDTA**

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ABSTRAK

Alanine Aminotransferase (ALT) merupakan enzim yang termasuk ke dalam parameter pemeriksaan fungsi hati. Enzim ini paling sering dihubungkan dengan kerusakan sel hati dikarenakan konsentrasinya yang tinggi jika dibandingkan pada organ lain seperti ginjal dan otot. Hemolisis merupakan kesalahan yang umum terjadi pada tahap pra analitik. Penelitian ini bertujuan untuk mengetahui pengaruh dari hemolisis terhadap aktivitas ALT pada sampel plasma EDTA. Penelitian eksperimental dengan desain penelitian *Posttest Only Control Group Design* ini dilakukan dengan mengambil sampel darah vena menggunakan teknik vacutainer dari 1 (satu) orang yang memenuhi kriteria inklusi sebanyak 15 mL. Darah tersebut ditampung ke dalam 5 buah tabung EDTA dan diberi label. Tabung “0” sebagai kontrol (darah tidak diaspirasi), tabung “4” darah diaspirasi sebanyak 4 kali, tabung “6” darah diaspirasi sebanyak 6 kali, tabung “8” darah diaspirasi 8 kali, dan tabung “10” darah diaspirasi 10 kali. Data yang diperoleh dianalisis menggunakan uji One Way ANOVA, hasilnya terdapat perbedaan nilai rata-rata aktivitas ALT dari kelima kelompok ($p < 0,05$). Kemudian data dianalisis dengan uji PostHoc ANOVA metode Tukey, menunjukkan ada perbedaan nilai rata-rata aktivitas ALT yang signifikan antara sampel yang tidak memperoleh aspirasi dengan yang memperoleh aspirasi ($p < 0,05$). Dari hasil tersebut dapat disimpulkan bahwa hemolisis mempengaruhi aktivitas ALT dalam sampel plasma EDTA saat kadar hemoglobin plasma sebesar 0,10 g/dL (Aspirasi 4 kali).

Kata Kunci: Hemolisis, *Alanine Aminotransferase (ALT)*, Aspirasi

***EFFECT OF HEMOLYSIS ON ALANINE AMINOTRANSFERASE (ALT)
ACTIVITY IN EDTA PLASMA SAMPLE***

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ABSTRACT

Alanine Amonitransferase (ALT) is an enzyme that is included in the parameters of liver function tests. This enzyme is most often associated with liver cell damage due to its high concentration when compared to other organs such as the kidneys and muscles. Hemolysis is a common error in the pre-analytic stage. This study aims to determine the effect of hemolysis on ALT activity in EDTA plasma samples. This experimental study with Posttest Only Control Group Design was conducted by taking 15 mL of venous blood samples using the vacutainer technique from one person who fulfill the inclusion criteria. The blood was collected into five EDTA tubes and labeled. Tube "0" as control (blood is not aspirated), tube "4" blood is aspirated four times, tube "6" blood is aspirated six times, tube "8" blood is aspirated eight times, and tube "10" blood is aspirated ten times. The data obtained were analyzed using the One Way ANOVA test, the result was that there were differences in the average value of ALT activity from the five groups ($p < 0.05$). Then the data were analyzed by the PostHoc ANOVA test with Tukey's method, which showed that there was a significant difference in the average value of ALT activity between the samples not receiving aspiration and those receiving aspiration ($p < 0.05$). From these results it can be concluded that hemolysis affects ALT activity in EDTA plasma sample when plasma hemoglobin level is 0,10 g/dL (four time aspiration).

Keywords: Hemolysis, Alanine Aminotransferase (ALT), Aspiration