

ABSTRAK

Latar belakang : Pemeriksaan kalsium di laboratorium banyak menggunakan tabung vakum dengan antikoagulan heparin. Salah satu metode pemeriksaan kadar kalsium yaitu metode *Spectrophotometry test with arsenazo III*. Pada prinsip pemeriksaan kalsium metode *Spectrophotometry test with arsenazo III* sampel harus pada pH netral. Penundaan pemeriksaan menyebabkan terbentuknya asam laktat. Asam laktat menyebabkan pH sampel menurun sehingga pH sampel menjadi asam. Hal ini menyebabkan ikatan arsenazo III dan kalsium terlepas dan kadar kalsium menjadi turun.

Tujuan Penelitian : Mengetahui pengaruh lama waktu penundaan pemeriksaan plasma heparin selaa 1 jam dan 2 jam terhadap hasil pemeriksaan kadar kalsium

Metode Penelitian : Penelitian ini menggunakan sampel plasma heparin yang dibagi menjadi 3 kelompok berdasarkan lama waktu penundaan, yaitu segera diperiksa, ditunda 1 jam dan 2 jam. Data hasil pemeriksaan kadar kalsium sebanyak 45 data. Data dianalisis secara deskriptif dan statistik, untuk analisis statistiknya menggunakan uji *Repeated Measures Anova*..

Hasil penelitian : Analisis deskriptif menunjukkan persentase selisih hasil pemeriksaan kadar kalsium segera diperiksa dan setelah ditunda 1 jam adalah 31 %, selisih hasil pemeriksaan kalsium yang segera diperiksa dan setelah ditunda selama 2 jam adalah 50 %. Analisis statistik juga menunjukkan adanya perbedaan yang signifikan . Uji *Repeated Measures Anova* menunjukkan nilai sig 0,000. Nilai tersebut $< 0,05$ sehingga adanya perbedaan kadar kalsium dalam plasma yang segera diperiksa, ditunda selama 1 jam dan 2 jam.

Kesimpulan : Ada pengaruh lama penundaan pemeriksaan plasma heparin terhadap kadar kalsium. Semakin lama waktu penundaan pemeriksaan plasma heparin, hasil pemeriksaan kadar kalsium semakin turun

Kata Kunci : penundaan, plasma heparin, kalsium

ABSTRACT

Background : Calcium examination in the laboratory mostly uses vacuum tubes with heparin anticoagulant. One of the methods for examining calcium levels is the *Spectrophotometry test with arsenazo III method*. On the principle of calcium examination method *Spectrophotometry test with arsenazo III* samples must be at a neutral pH. Delay in the examination results in the formation of lactic acid. Lactic acid causes the pH of the sample to decrease so that the pH of the sample becomes acidic. This causes arsenazo III and calcium bonds to be released and calcium levels fall.

Research Objectives : To determine the effect of delaying heparin plasma examination for 1 hour and 2 hours on the results of examination of calcium levels

Research Methods : This study used heparin plasma samples which were divided into 3 groups based on the length of time delay, namely immediately checked, delayed 1 hour and 2 hours. The results of the examination of calcium levels were 45 data. The data were analyzed descriptively and statistically, for statistical analysis using the test *Repeated Measures Anova*.

Result: Descriptive analysis shows the percentage difference in the results of calcium levels being checked immediately and after being delayed for 1 hour is 31%, the difference between calcium test results immediately being checked and after being postponed for 2 hours is 50%. Statistical analysis also showed a significant difference. test *Repeated Measures Anova* shows a sig value of 0.000. The value is < 0.05 so that there is a difference in plasma calcium levels which are immediately examined, delayed for 1 hour and 2 hours.

Conclusion : There is an effect of delay in plasma heparin examination on calcium levels. The longer the delay in plasma heparin examination, the results of the examination of calcium levels will decrease

Keywords: delay, plasma heparin, calcium