

ABSTRACT

Background: The SGPT (Serum Glutamic Pyruvic Transaminase) examination is a functional test that can provide information about the condition of the liver, especially whether there is damage or disturbance to this organ, especially in DM patients who are characterized by high blood glucose levels. Blood sugar levels are an indication of a more serious metabolic disorder. Based on laboratory practice, factors that cause delays in examinations often occur due to limited number of laboratory staff, the distance between the laboratory and the sample collection location is too far, equipment errors, apart from that, if reagent stocks start to decrease and anticipating complaints, re-examination can be carried out without having to re-take samples, so it is important to know the stability of serum in SST tubes which are stored for 7 days at a temperature of 2-8°C.

Objective: To determine the difference in serum from diabetes mellitus patients was examined immediately and stored for 7 days at 2-8°C in SST tubes to confirm SGPT examination.

Method: This type of research is pre-experimental with a one-group pretest-posttest research design. This study used 30 samples of DM patients by conducting a test in two examination treatments, namely being examined immediately and stored for 7 days at a temperature of 2-8°C in SST tubes. Then compared to see the differences in enzyme activity. The data obtained were subjected to statistical analysis using data normality tests and non-parametric tests (Wilcoxon).

Results: The results showed that there were differences in serum SGPT enzyme activity in SST tubes which were examined immediately and stored for 7 days at a temperature of 2-8°C with a percentage of 3.78%. The difference in SGPT enzyme activity is not clinically significant because the SGPT enzyme activity according to CLIA 2024 is $\pm 15\%$ so that SGPT examination results stored for 7 days at a temperature of 2-8°C can still be used.

Conclusion: There was a difference in the serum of diabetes mellitus patients who were examined immediately and stored for 7 days at a temperature of 2-8°C in an SST tube (Serum Separator Tube) tube but it did not cause clinical changes so it was used to confirm the SGPT (Serum Glutamic Pyruvic Tranaminase) examination.

Keywords: SGPT, DM, Serum Storage, SST, *Serum Separator Tube*, Temperature.

ABSTRAK

Latar Belakang: Pemeriksaan SGPT (*Serum Glutamic Pyruvic Transaminase*) merupakan uji fungsi yang dapat memberikan informasi mengenai kondisi hati, khususnya apakah ada kerusakan atau gangguan pada organ tersebut, khususnya pada pasien DM yang ditandai berupa kadar glukosa darah tinggi. Kadar gula darah merupakan indikasi adanya gangguan metabolisme yang lebih serius. Berdasarkan praktik di laboratorium faktor penyebab penundaan pemeriksaan sering terjadi karena keterbatasan jumlah tenaga laboran, jarak laboratorium dengan tempat pengambilan sampel terlalu jauh, alat eror, selain itu apabila stok reagen mulai berkurang dan mengantisipasi adanya komplain sehingga dapat dilakukan pemeriksaan ulang tanpa harus melakukan pengambilan ulang sampel sehingga penting untuk mengetahui kestabilan serum dalam tabung SST yang disimpan selama 7 hari suhu 2-8°C.

Tujuan: Mengetahui perbedaan serum pasien diabetes mellitus yang diperiksa segera dan disimpan 7 hari suhu 2-8°C pada tabung SST untuk konfirmasi pemeriksaan SGPT.

Metode: Jenis penelitian ini adalah *pre-eksperimental* dengan bentuk desain penelitian *One-group pretest-posttest*. Penelitian ini menggunakan 30 sampel pasien DM dengan mengadakan suatu tes dalam dua perlakuan pemeriksaan yaitu diperiksa segera dan disimpan 7 hari pada suhu 2-8°C pada tabung SST. Kemudian dibandingkan dengan melihat perbedaan aktivitas enzim. Data yang diperoleh dilakukan analisis statistik dengan uji normalitas data dan uji non-parametrik (*Wilcoxon*).

Hasil: Hasil penelitian menunjukkan terdapat perbedaan aktivitas enzim SGPT serum pada tabung SST yang diperiksa segera dan disimpan 7 hari pada suhu 2-8°C dengan presentase 3,78%. Perbedaan aktivitas enzim SGPT secara klinis tidak bermakna karena aktivitas enzim SGPT menurut CLIA 2024 adalah $\pm 15\%$ sehingga hasil pemeriksaan SGPT yang disimpan selama 7 hari pada suhu 2-8°C masih dapat digunakan.

Kesimpulan: Ada perbedaan serum pasien diabetes melitus yang diperiksa segera dan disimpan 7 hari suhu 2-8°C pada tabung SST (*Serum Separator Tube*) namun tidak menyebabkan perubahan klinis sehingga digunakan untuk konfirmasi pemeriksaan SGPT (*Serum Glutamic Pyruvic Tranaminase*).

Kata kunci: SGPT, Diabetes Mellitus, Penyimpanan Serum, *Serum Separator Tube*, Suhu.