採血管の削減は血液検体を用いる検査項目全体の Turnaround Time (TAT) を短縮する。臨床病理 61(1): 38~43, 2013. [PMID 23672080]
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Decrease in Number of Venipuncture Tubes Enables US to Shorten Turnaround Times of Blood-Based Testing in Clinical Laboratories.
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【Abstract】We are making efforts to reduce the number of venipuncture tubes for blood-based testing. On the reconstruction of hematology system in 2011, we planned the system to include hemoglobin A1c (HbA1c) assay and to replace the assay instrument for erythrocyte sedimentation rate (ESR) to use EDTA-2K based whole blood. Accordingly, the revised system required a single test tube for hematological testing, resulting in reduction of blood volume collected. It was estimated that the whole blood collected from outpatients in a year decreased from 143 L to 109 L. Also, the times required to complete venipuncture after outpatient accession were significantly shortened to $10^{0.71 \pm 0.27}$ (2.75〜9.55) min, and nearly 50% of outpatients experienced < 2 min of waiting. As the times required for venipuncture were shortened, the turnaround times (TATs) from outpatient accession to finally reporting the test results to physicians were also shortened in the blood-based laboratories. The TATs after outpatient accession to reporting the test results in biochemistry and serology ranged 59 to 80 min (90%-tile), indicating 8 to 16 min less when compared with those before system reconstruction.

In conclusion, the decrease in number of venipuncture tubes in hematological testing enables us to reduce the blood volume collected, and to shorten (1) times required for venipuncture procedure, (2) waiting times, and (3) TATs for blood-based testing. However, as demonstrated in HbA1c, i.e., a 50%-tile of TAT for HbA1c delayed for 5 min, the configuration of assay system can greatly influence the TATs of individual test parameters.

【Key words】Turnaround time, TAT (所要時間), blood collection, venipuncture (静脈採血), reduction of venipuncture tube (採血管削減), rapid reporting (迅速報告), outpatient (外来患者)