A cross-sectional study to observe the platelet count correlation using automated vs manual on smear

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Abstract

Background: There should be correlation between the methods. That means the value of platelet count that is obtained should be more or less same using different methods. The studies related to this are very essential to support the new methods.

Objective: The present study was undertaken to observe the platelet count correlation using automated vs manual on smear.

Methods: The present study involved 100 patients both males and females with age more than 30 years. The selection was done from the outpatient department. Willing participants were included in the study. Those with severe complications were excluded from the study. A thorough clinical evaluation was conducted on all the patients. Voluntary informed consent was obtained from all the patients before the study.

Results: The results were presented in table 1 to table 3. Table 1 presents the age wise distribution of cases. Majority of patients belongs to age group 0f 41-50 years. Table 2 presents the platelet Count assessed by analyzer. Majority of patients count is between 70000-90000 using auto analyzers. Table 3 presents the platelet Count assessed by manual method. Majority of patients count is between 70000-90000 using the manual method. There is correlation between the both the methods.

Conclusion: The study results support that there is correlation between the manual and automated methods. Though there is correlation, the study recommends further detailed studies with higher sample size. Also multi centre studies should be planned in this area.

Keywords: platelet count, manual method, automated method, correlation

Introduction

The blood smear in the pathology has enormous uses. Assessment of blood parameters has immense importance in the diagnosis as well as prognostic values [1]. Blood cell count variation is common in pathological conditions. Assessment of platelet count is common practice in clinical practice. The reference value for platelet count normal value is 1.5 lakhs to 5 lakhs. It was observed that the platelet count when remain less than twenty thousands, there may be mild clinical manifestations [2]. But when it goes less than ten thousands, there is severe risk to life. It may cause severe hemorrhage and also death of the patient. The available methods for assessment of platelet count are manual, automated and peripheral smear. Though the traditional method of platelet assessment is effective and accurate but it takes time [3]. So, there is a need for method which takes less time. However, there should be correlation between the methods. That means the value of platelet count that is obtained should be more or less same using different methods. The studies related to this are very essential to support the new methods. Hence, the present study was undertaken to observe the platelet count correlation using automated vs manual on smear

Materials and Methods

Study design: Cross-sectional study

Sampling method: Convenient sampling

Study population: The present study involved 100 patients both males and females with age more than 30 years. The selection was done from the outpatient department. Willing participants were included in the study. Those with severe complications were excluded from the study. A thorough clinical evaluation was conducted on all the patients. Voluntary informed consent was obtained from all the patients before the study.

Method of data collection: Blood samples of the patients were collected following the standard guidelines and processed using the auto analyzer.
The present study was undertaken to observe the platelet count correlation using automated vs manual on smear. Table 1 presents the age wise distribution of cases. Majority of patients belongs to age group of 41-50 years. Table 2 presents the platelet Count assessed by analyzer. Majority of patients count is between 70000-90000 using auto analyzers. Table 3 presents the platelet Count assessed by manual method. Majority of patients count is between 70000-90000 using the manual method. There is correlation between the both the methods. The study results support that there is correlation between the manual and automated methods. Though there is correlation, the study recommends further detailed studies with higher sample size. Also multi centre studies should be planned in this area.

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**References**