eP116 - Nucleic acid amplification test: Bridging the gap in blood safety & re-evaluation of blood screening for transfusion-transmitted infection among Indian donors.

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Abstract

Background: A total of 30 million blood components are transfused each year in India. Blood safety thus becomes a top priority, especially with a population of around 1.23 billion and a high prevalence rate of human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV) in general population. Nucleic acid amplification testing (NAT) in blood donor screening has been implemented in many developed countries to reduce the risk of transfusion-transmitted viral infections (TTIs). NAT takes care of the dynamics of window period of viruses and offers the safest blood pack for donation.

Aims: The aim of this study is to show the value of NAT testing for in blood screening.

Materials and Methods : Over a period of 2 year from May 2016 to May 2018, a total number of 63014 blood donor samples were subjected to tests for HIV, HBV, and HCV by enzyme-linked immunosorbent assay (ELISA) method and 60934 ELISA nonreactive samples were subjected for NAT using multiplex polymerase chain reaction technology.

Results: Of the 63,014 donors tested, 295 were seroreactive. In 60,934 ELISA negative blood samples subjected to NAT, 21 donor samples were reactive for HBV. The NAT yield was 1 in 2901.

Conclusions: The cryptic infections found in blood donors increase the risk of TTIs. Blood screening by both serology and NAT can reduce this threat.

Keywords: Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), Human Immunodeficiency Virus, Nucleic Acid Amplification Testing (NAAT), Transfusion-Transmitted Infection (TTI).

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