Conference Abstract

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Feasibility of Nucleic Acid Testing in Developing Countries

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With 120 million blood donations worldwide and around three million in Pakistan, either voluntarily or replacement collected in single calendar year. Blood transfusion save lives, however poorly screened blood for Hepatitis B Virus, Hepatitis C Virus, HIV, Syphilis and Malaria can cause high potential risks for recipients. The risk of Transfusion Transmitted Infections (TTIs) is greater in developing nations such as Pakistan. Pakistan is the country with second highest burden of HCV with 8 million while 2.5% are living with HBV. Additionally, 150,000 new cases of HCV and 250,000 cases are added every year. In Pakistan, donors screening for TTIs are mainly carried out by ICT technique followed Chemiluminescence immunoassay (CLIA) and some advance centres are performing by NAT.

The TTIs can be eliminated by adopting NAT testing as it detects window period with better sensitivity and specificity. The data of 32 nations including some developing nations indicated increased adoption of blood donation viral screening by NAT in recent past years. NAT-positive blood collections were identified for all TTIs tested in year 2019 (proportion of donations positive by NAT were 0.0099% for human immunodeficiency virus (HIV), 0.0063% for hepatitis C virus (HCV), 0.0247% for hepatitis B virus (HBV), 0.0323%. Worldwide, around 3100 NAT-positive blood collections were noticed as NAT vintage or exclusively by NAT in year 2019 and around 22,000 since the introduction of NAT, with HBV accounting for over half. NAT-positivity rate was greater in first-time blood donors for all TTIs tested. There has been amplified NAT practice over the last decade.

It is very sound and clear that NAT contributes to improving blood transfusion globally; thus, there is a need to overwhelm financial obstacles for developing nations currently not performing NAT. Furthermore, training of the workers will also need to implement the NAT testing at the blood centres.

Disclosure

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