

Safe Blood Transfusion : Past, Present And Future

Dr. Tashmim Farhana Dipta¹, Prof. Md. Tahminur Rahman²

Introduction

Safe blood transfusion is the term refers to judicial and rational therapeutic use of blood and blood products. World Health Organization (WHO) recommendation of safe blood transfusion is provision of compatible blood which are cross matched and screened for at least five WHO recommended transfusion transmitted infection i.e. Human Immunodeficiency Virus (HIV), Hepatitis C virus (HCV), Hepatitis B Virus (HBV), Syphilis and Malarial parasite¹.

The idea of blood transfusion appeared in the fifteenth and sixteenth centuries with the belief that transfusion of blood from a young and healthy person to an aged or debilitated individual would restore youth and health. With this idea in mind pope innocent VIII was given blood from three unfortunate persons in 1542 and all the four died. In ancient history people also drink blood to be enriched with supernatural power². Historical Events of Transfusion Medicine begins with invention of ABO blood group system by Karl Land Steiner since 1901 and invention of Rh blood group system by K. Land Steiner & A. Wiener since 1940².

Implementation of Safe Blood transfusion started in 1997 with the realization of judicial use and safety of blood and blood products in Bangladesh. A national strategic plan for HIV/AIDS/STD prevention formulated incorporating blood transfusion sector. Since 2000, screening of Transfusion Transmitted Infection (WHO recommended) has been introduced in Bangladesh along with judicial act and national policies ruled by the Government of People's Republic of Bangladesh. Safe blood transfusion law 2002 has been approved by the parliament and published with an emphasis towards management and services of safe collection, processing, preservation and transfusion. The goal is to establish and operation of private blood transfusion centers and 100 Upazilla blood transfusion centers by 2008. Official Gazette notification of the law has been published for implementation from 1st august 2004 and safe blood transfusion ruling order has been published on 7th may 2005. Emphasis is given to the out door and day care facilities provided by Transfusion Medicine Department. Safe blood

Transfusion Programme was sponsored by United Nations Development Programme (UNDP) in 2000-2004 and from 2004-onwards is supporting by WORLD BANK, Development for International Development (DFID), World Health Organization (WHO) and Health, Nutrition and Population Sector Programme (HNPSP)³.

In our country the annual demand for blood transfusion is estimated to be 2,00,000 to 2,50,000 unit per year. But due to lack of voluntary donor and consciousness among people this demand is hardly met⁴. South East Asia account for 25% of the world's population but collects only 9% of the world's blood supply as a result 7 million units of blood in a year, but there is need of a total 15 million units of blood. In Bangladesh the prevalence of HIV now in general population is 0.1% except for injecting drug users. In 2006, 216 new cases of HIV were reported. By the end of 2004, 7,500 people were infected with HIV and between 2.2 and 3.9 million more people were in risk of acquiring HIV⁵.

Where as HCV became a serious problem according to study by Dhaka Shishu Hospital thalassaemia center where 19.4% multi transfused thalassaemia patients were anti HCV positive. Red crescent data of Bangladesh showed hepatitis B positive 0.2%, hepatitis C positive 0.3% and syphilis 0.5% in voluntary donors, while in professional donors hepatitis B was positive in 29%, hepatitis C in 6% and syphilis in 22%. So professional donors must be discouraged⁶.

In 2002 report received from safe blood transfusion centers showed that 52% donated blood comes from relatives, 28% from voluntary donors and 20% from professional blood donors⁷.

Donor selection is the most important part to avail safe donor by maintaining proper donor selection protocol of WHO and by ensuring or justifying proper deferral of inappropriate blood donor⁸. New modern technologies have been implemented in developed countries and emerging trends are autologous blood transfusion and preservation of rare blood group, peripheral stem cell transplantation (PBST), cord blood transplantation, gene therapy

1. □ Dr Tashmim Farhana Dipta, Assistant Professor and Head, Transfusion Medicine Department, BIRDEM Hospital & Ibrahim Medical College, For Correspondence email: tashmim@yahoo.com

2. □ Prof. Md. Tahminur Rahman, Professor & Head Pathology, Ibrahim Medical College & Consultant Grade I, BIHS, □ Mirpur, Dhaka

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and cloned blood . □

In our country clinicians should be committed to provide judicial and appropriate usage of blood and blood products. Modern technology like gel document/micro typing (column agglutination technology), component separation by buffy coat method (refrigerated centrifuge technique), platelet aphaeresis, plasma aphaeresis and therapeutic aphaeresis are in lime- light in our country. Full filling the criteria for proper donor selection and by implementation of WHO protocol and national rule of transfusion services and blood banking safe blood transfusion programme trying to reach to its goal. Advanced skill in serological technique, provision of risk free blood component, proper therapeutic process, logical and judicial use of blood, provision of out patient treatment and day care services are current trend to provide appropriate care for the patients having blood diseases.

Transfusion of blood from first degree relatives are not free of risk also, worse out come in marrow transplantation with development of anti-body are important issue in relative/party blood donation. As no blood is safe due to window period of HIV,HCV& HBV viruses and hazard is more in whole blood transfusion appropriate clinical use of blood is mandatory⁶.

Safe blood transfusion programme is increasing its field by availing these strategies. So we can hope in near future that safe blood transfusion can also remove anxiety from patients having genetical blood diseases with counselling, stem cell transplantation (SCT) and gene therapy. By encouraging voluntary blood donation with celebrating day like International Cancer Day(4th February), International Haemophilia Day (17th April), International Thalassaemia Day (8th May) and World Voluntary blood donors Day (17th June) we can motivate and educate our society. Thus we can bring sunshine in the sky of clinical transfusion practices in Bangladesh.

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