

SAATM

News Letter



AUGUST 2011

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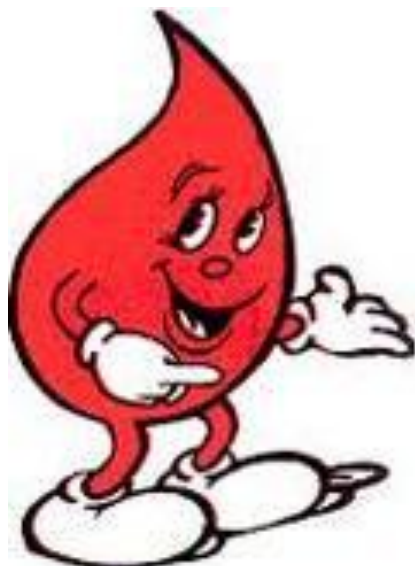
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EDITORIAL:

The editorial desk is glad to present this issue of SAATM. It encompasses a wide variety of topics and issues, more importantly the minutes of SAATM 2011 and the WORLD BLOOD DONOR DAY celebrations held in New Delhi.

It is our aim to make people aware of the importance of blood donation. With this aim in mind and in order to felicitate our voluntary donors a grand function was held at the Indraprastha Apollo Hospitals, New Delhi. We present a brief coverage of this function.

SAATM 2011 was held from May 27-28 at Dhaka, Bangladesh. It is our pleasure to present you the minutes of SAATM 2011. Readers will be updated with several aspects of this meet in this issue. The pace of technical advancements in the field of transfusion medicine in South Asia has gained much momentum in recent times, however, in certain areas lacunae still persist. These demand improvisations like adopting the policy of Type and Screen, advancements in Antibody Screen and Identification, Nucleic Acid Test (NAT), Single Donor Platelet (SDPs) Apheresis and Peripheral blood Stem Cell technology (PBSC) etc. One other area which needs much attention is “resuscitation of a patient with massive hemorrhage” which has been covered in this section. Gone are the days when we administered fresh whole blood. In this issue, we present with a finely tailored article which presents the modern technique and requirements for resuscitation of a patient with massive hemorrhage.

I sincerely hope this issue of SAATM would be greeted with open heart by our beloved readers.

EDITOR-IN-CHIEF:
Dr.R.N.Makroo

THE VIIth ANNUAL CONFERENCE OF SOUTH ASIAN ASSOCIATION OF TRANSFUSION MEDICINE, DHAKA, BANGLADESH

The VIIth annual conference of South Asian Association of Transfusion Medicine was held at Bangabandu International Convention Centre, Dhaka, Bangladesh on 27th and 28th May 2011. The chief guest was ***Professor A.F.M. Ruhāl Haque***, M.P. the hon'ble minister, Ministry of Health and Family Welfare, Govt. of Bangladesh. The special guest was ***Capt.(Retd.) Muzibur Rehman***, state minister, Ministry of

Health and Family Welfare, Govt.of Bangladesh. The meet was represented by delegates from India, Pakistan, Srilanka, Nepal, Newzealand, USA.

The scientific deliberation covered most of the topics related to the blood transfusion services (BTS). Eminent speakers from different parts of the world delivered guest lectures. Besides these, there was a full



Chief Guest's Address To The Conference

session on free paper followed by discussions.

The conference had five sessions in two days:

The session I was chaired by **Dr. N. Choudhary**, India & the Co.Chairperson was **Dr. M. M. Habibullah**. The topic for the session was ‘Reorganization of Blood Transfusion Services’. In this session **Dr. Md Mazharul Haq** emphasized on the Centralized BTS and effect on health care services, **Dr. Md.Ashdul Islam** spoke on Planning for reorganization of Bangladesh BTS, **Dr.G. Woodfield** from NewZealand spoke on leucodepletion. A full session covering the promotion of voluntary blood donation was also taken up & prominent speakers like **Dr. N. K. Bhatia** spoke on this issue.

Session II was chaired by **Dr. A Gunashekhara** & the Co-Chairperson was **Dr. Md.Ashdul Islam**. The topic for this session was ‘Capacity building in Blood Component Production’. **Prof. Husna Ara Begum** stressed on the ‘Status of component preparation in Bangladesh’,

Dr.Lakmali Morawaka spoke on the topic of ‘Rational use of blood & components’, **Dr.Jim Perkins** from USA gave a deliberation on ‘Transfusion associated circulatory overload’. **Dr. Bharat Singh** spoke on the topic of ‘Plateletpheresis: experience in regional transfusion center’.

The session III was chaired by **Dr. Jim Perkins**, USA & the co-Chairperson was **Dr.Mosleh Uddin Ahmed**. The topic for the session was ‘HIV & other transfusion associated infections’. **Dr. Murad Sultan** spoke on ‘Blood transfusion in South East Asia’, **Dr. Syeda Masooma Rahman** deliberated on ‘HIV infection in Bangladesh’, **Dr.Mosleh Uddin Ahmed** spoke on ‘Transfusion Associated HCV Infection’, **Dr. Tashmim Farhana Dipta** spoke on ‘Menace of Transfusion Malaria’, **Dr.Gajendra Gupta** spoke on ‘Recent advances in TTI diagnosis’, **Dr. Sangeeta Gupta** spoke on ‘Is NAT testing required in BTS in South Asia?’, **Dr. N Choudhary** spoke on SAATM blood bank accreditation program,

Dr. Rupinder Kaur spoke on ‘Hepatitis: a silent threat among blood donors’.

The session IV was chaired by *Prof. Dr. Mujibur Rehman* & the co-Chairperson was *Dr. G.Woodfield*. The topic for the session was Status report of BTS in Countries from South Asian Region. *Dr. Ved Prakash Gupta* of India, *Dr. Krishna Sharma* of Bhutan, *Dr. Badrul Islam* of Bangladesh, *Dr. Manita Rajkanikar* of Nepal, *Dr. Lamyee Razee* of Maldives, *Dr. Farrukh Hassan* of Pakistan, *Dr. A Gunashekhara* of Srilanka gave status reports of BTS of their respective countries.

The session V was chaired by *Dr. Jalilur Rahman* & co-chairperson was *Dr. Farrukh Hasan*. The topic for the session was ‘Recent Developments in Immunoematology’. *Dr. Nidhi Mehta* talked on ‘Red Cell Antibodies Screening’, *Dr. Jan Hamilton* from USA gave a lecture on ‘Problem solving for high sensitivity antibody detection test’. *Dr. Munjuma Rahman* spoke on ‘Column agglutination technology in

immunoematology’, *Dr. R. N. Makroo* gave a guest lecture on ‘Automation in immunoematology’ & stressed the need on type & screen, *Dr. N. K. Bhatia* spoke on ‘Management of post-transfusion reactions’, *Dr. Farhana Islam* talked on ‘Anti-human globulin test and its significance’, *Dr Ismat Ara Begum* deliberated on ‘Male Donors Donate More Blood - Two years study’.

On this occasion several dignitaries presented their presentations,

1. *Dr. Khondker Jakaria Khaled*, Director, Blood Program, Bangladesh Red Crescent Society, presented on Bangladesh Red Crescent Society BLOOD PROGRAM.
 - He talked about the assistance received by BDRCS from Swiss, Finland & the Japanese Red cross agencies since 1981 and the opening of four new branches at Chittagong, Sylhet, Jessore, Dinajpur.
 - He also emphasized on the present activities of BDRCS viz. motivation for VBD, blood

collection (mobile & indoor);
 blood screening (HIV/AIDS,
 HBV, HCV, syphilis, malaria);
 blood component separation (PC,
 FP, FFP, platelets, PRP, Cryo
 etc);blood/blood component
 preservation; blood transfusion
 for thalassaemia patients; donor



The dignitaries at SAATM

recruitment & counseling, Donor
 retention, Campaign for rational
 use of blood.

2. **Dr. Murad Sultan** of WHO,
 Bangladesh, presented on Blood
 Transfusion Services in South-
 East Asia Region (SEAR).

- In his elaborate presentation, he spoke on the WHO and IRC principles pertaining to blood transfusion, Global Database on

Blood Safety (GDBS) and its objectives.

- He also spoke on blood collection and usage globally before coming to the SEAR .
- While talking about SEAR transfusion services he spoke on blood programmes of various countries of SEAR, Voluntary non remunerated donor potential of the region, prevalence of HIV, HBV, HCV infection among the donors etc.
- He ended by emphasizing the challenges at various levels viz, Governance, Community mobilization, Care of donors, Technical problems that need to be confronted.

3. **Dr. Farrukh Hasan**, Medical Director, National Hematology Centre & Blood Bank, presented on Status of Blood Transfusion Services in Pakistan.

- In his presentation he spoke about the evolution of the transfusion services in Pakistan. He then explained the present

status of the transfusion services in four provinces of Pakistan.

- Later, he spoke on the prevalence of HIV, HBV, HCV in the four provinces.
- He then talked about the National BTS Policy in Pakistan.
- While concluding he said, risk of transmission of viral hepatitis is still a major problem of blood transfusion in Pakistan, they were short of trained staff especially in the public sector and preventive strategies were required for infective blood & genetic diseases.



TEAM SAATM

Minutes of the meeting of 7th SAATM Annual General Body Meeting (AGM) held at Dhaka on 27th May 2011.

The seventh annual general body meeting (AGM) of the South Asian Association of Transfusion Medicine (SAATM) was held at the conference venue of 7th SAATM conference i.e. Bangabandhu Convention Center, Dhaka, Bangladesh from 5 PM onwards. Dr. N. Choudhury, Secretary General of SAATM invited Dr. Farrukh Hasan to chair the annual General Body meeting. The President of SAATM (Dr. RM Bindusara) could not attend this meeting and nominated Dr. M. Morakawa to preside over the meeting who in turn requested Dr. Hasan to preside over the meeting due to unavoidable circumstances.

The President asked the Secretary General to present the annual report to SAATM members. The Secretary General briefly read out his annual report which had already been read out and distributed during the inaugural program of the conference. Following points were discussed, debated and

agreed upon by members present in the AGM as per agenda circulated three weeks before the AGM:

1. The minutes of the 6th AGM held at Karachi on 21st November 2008, Pakistan was discussed and it was approved unanimously.

2. Membership drive: The Secretary General announced that membership was gradually increasing in all member countries i.e. Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Indonesia, Timor Leste and other foreign countries. All members stressed that membership drive should be started in all countries with renewed vigor:

a. As per constitution, the country chapter would have Chairperson (one), Vice-Chairperson (one), Secretary (one), Joint Secretary (two), Treasurer (one), Executive members (5-9; odd number) and any decent number of Advisors. The chapter might also opt for Sub-Editor (one) who would coordinate with SAATM Editor for publication of E-bulletin or journal and also publish information materials at country level.

b. The country chapter would have its financial autonomy to run the organization. However, all major transaction/ donations/ legal actions would be informed to the head office (HO) for information or necessary action. Money collected from membership and savings of conference would be retained with country chapter and not sent to head office.

c. Membership forms would be made available in the website and interested member could submit it either to the country chapter or to the HO with requisite membership fees. As per constitution, if a member pays annual fees (US\$ 25 or INR 1500) consecutively for three years, he/ she becomes eligible for individual life membership with an additional payment of US\$ 15 after recommendation from a three member screening/ recommending committee.

d. Annual members will be eligible to vote in SAATM-AGM and other country chapter meetings, 45 days after obtaining annual membership.

3. Restructuring of National Chapters: Most of the country chapters were actively working to promote the cause of SAATM in respective countries. AGM requested Executive Council/ Governing Council Members in following countries to restructure country chapters if necessary to make it more vibrant. Members given responsibility were Bhutan (Dr. KP Sharma), Bangladesh (Dr. B. Islam), India (Dr. N. Choudhury), Maldives (Dr. A. Huda), Nepal (Dr. M. Rajkarnikar), Pakistan (Dr. F. Hassan), Sri Lanka (Dr. A. Gunasekhara), Indonesia (Dr. Yuyun).

4. Amendment of constitutions: It was felt by all members that a revised constitution was needed in the interest of SAATM to make the organization more vibrant and ensure ease of operations. Executive Committee proposed following major amendments which were approved by the AGM:

a. The name of the organization would be replaced as “SOUTH ASIAN ASSOCIATION OF TRANSFUSION MEDICINE” in place of “South East Asian Association of Transfusion

Medicine” . The same would be applied to the office of the Charity Commissioner, Ahmadabad, India.

b. The SAATM International Executive Committee would be replaced by two tier body. One permanent five member “Executive Council” which would have arbitrator power to resolve any dispute of SAATM International (including Governing Council) and country chapters. The second one would be “Governing Council” which would run regular day to day affairs of the organization.

c. Executive Council would take decision by majority and would be constituted by founder members or members attached since inception in 1999. Members might willingly vacate the post which goes to the next founder member. It would act as per provision laid down by the constitution. Executive Council Member would be Dr. Badrul Islam (Bangladesh), Dr. Nabajyoti Choudhury (India), Dr. Manita Rajkarnikar (Nepal), Dr. Farrukh Hassan (Pakistan) and Dr. Lakmali Morawaka (Sri Lanka).

d. The Governing Council would execute operational part of SAATM and term for serving members would be for three years as per terms and conditions laid down by the constitution. A new Governing Council was proposed and unanimously elected by members of the AGM. Members elected by AGM were Dr. Anand K. Gunasekara (President), Dr. Nabajyoti Choudhury (Secretary General), Dr. Manita Rajkarnikar, Nepal (Vice President); Farrukh Hassan, Pakistan (Vice President); Dr. Ved Prakash Gupta, India (Vice President); Dr. Aminath Huda, Maldives (Vice President); Dr. Mahrukh Getshen, Bhutan (Vice President); Dr. Badrul Islam, Bangladesh (Vice President); DR. Syed Qamar Abbas, Pakistan (Joint Secretary), Dr. Mazhar ul Haque, Bangladesh (Joint Secretary); Dr. Amit Agarwal, India (Joint Secretary-Publicity); Dr. RN Makroo, India (Editor in Chief); Dr. Tapan Kumar Ghosh, India (Treasurer); Dr. Krishna Sharma, Bhutan (Executive Member); Dr. Dawood Adnan, Bangladesh (Executive Member); Dr. Lochna Shrestha, Nepal (Executive Member); Dr. Bharat Singh,



Dr.R.N. Makroo being felicitated at SAATM

India (Executive member); Dr. Lakmali Morawaka, Sri Lanka (Executive Member); Dr. Zahid Ansari, Pakistan (Executive Member); Dr. Yuyun Siti Maryuningsih, Indonesia (Executive Member). *Members from Bhutan are subjected to confirmation from the Royal Bhutan Government.*

e. As per constitution, only medical graduates (e.g. MBBS or MD) could be a member of SAATM. However, as the scope of the organization was enlarging, members felt that medical technologists could be made members without voting rights. It was decided that they will pay a sum of US\$ 10 as annual membership fees and register themselves with the country chapters. They would be eligible for other benefits of SAATM members

including specific fellowship for technologists.

5. Regularity of E-News Letter & launching of SAATM Web-site: Members stressed that E- News Letter of SAATM should be published regularly.

a. An Editorial Board was appointed under the chairmanship of the President, SAATM: Editor in Chief (Dr. RN Makroo, India); Members (Dr. Namal Bandara: Coordinator-Sri Lanka; Dr. Krishna Sharma- Bhutan; Dr. Mumtaz- Bangladesh; Dr. Rupinder Kaur- India; Dr. Geeta Shakya- Nepal).

b. At least three issues of SAATM E-News Letter should be published in a year and it should be distributed free of cost to all members and peers within one month of publication.

c. SAATM journal: There was an acute requirement of peer reviewed journal on transfusion medicine for member countries. The responsibility was entrusted on Editorial Board to take initiative to publish one international journal at global level.

d. AGM authorized Joint Secretary (Publicity- Dr. Amit Agarwal) to

maintain, update and constantly improve SAATM website to make it more interactive. AGM also requested JS (Publicity) to take initiative to interact with other organizations in this part of the world and also to publish relevant literatures, if required.

6. Treasurer and new bank account: As SAATM Secretariat has moved from Ahmedabad to Kolkata, AGM authorized the Secretary General to open a new bank account in Axis Bank at Kolkata with immediate effect. AGM also nominated Dr. Tapan Kumar Ghosh from India as the Treasurer of SAATM as mentioned in serial no. 4 (d).

7. Future annual conferences of SAATM: It was discussed that members would try to hold annual conference on time. As per request of members from country chapters, it was decided that 8th annual conference of SAATM would be held in Sri Lanka in 2012 and 9th annual conference would be held in India in 2013.

8. Other matters with the permission of the chair: Members proposed various modalities to improve functioning of the organization.

a. Aman ki Asha: Dr. Farrukh Hassan (Pakistan) proposed that there was an initiative for trans-border peace initiative among South Asian countries under the heading of “Aman ki Asha”. Members strongly felt that SAATM could be associated in this initiative. AGM authorized Dr. F. Hassan to start this initiative from Pakistan side and Dr. NK Bhatia from Indian side to finalize a program which might help in supplying safe blood across the borders.

b. Fund raising: Members felt that there was a very strong need of fund raising to carry out routine activities of SAATM across member countries.

i. One “fund raising committee” had been constituted with Dr. Kazi Nawshad Hossain (Coordinator; from Bangladesh), Dr. NK Bhatia (Member; from India), Dr. AK Gunashekara (Member; from Sri Lanka). The fund raising committee should go ahead with a definite plan and purpose and include

patrons who could contribute to the cause.

ii. Members felt that financial transparency and accountability is very necessary for all matters in SAATM. Members suggested that SAATM should try to generate funds by associating itself with international agencies like Rotary & Lions clubs.

iii. All country chapters were requested to get their bank account audited once in a year.

iv. SAATM country chapters and SAATM International were requested to try and get income tax exemption in respective countries.

v. The Secretary General informed members that SAATM International bank account is regularly audited and received income tax PAN number as per government law.

c. Country chapter activity: Members requested all country chapters to organize at least 1 or 2 CME/ workshop every year to keep momentum going in each country.

d. SAATM Fellowship: The Secretary General informed that one “SAATM International Fellowship” would be

started from the year 2011 and made available for one doctor and one technologist from member countries for 2 to 6 weeks training in one of SAATM training centers in knowledge deficient areas. SAATM was looking for more sponsors to increase the number of Fellowship from 2 to 6 in a year. Details about implementation would be decided by the Governing Body.

e. SAATM institute of Transfusion Medicine: Dr. N.K. Bhatia (India) proposed that one Transfusion Medicine institute should be started in member countries for different developmental programs. AGM approved it in principle as a long term goal for the organization.

f. Regular meeting: Teleconferences among Governing Body members: AGM approved that there would be one teleconference per month (through Skype) among members of the Governing Body to discuss progress made in the past and actions to be taken in future. Important point would be communicated to general members, if required.

g. Membership cards: It was suggested that all members should get a SAATM

membership card once they pay registration fees. Dr. N.K. Bhatia volunteered to sponsor the first lot of membership cards.

h. Accreditation/ grading program: The Secretary General proposed that there should be one accreditation program for blood banks in member countries. Governmental and inter-governmental organizations like National Accreditation Board for Hospitals and Healthcare Providers (NABH from government of India) and South Asian Association for Regional Cooperation (SAARC) could be involved in this process. AGM approved a three member committee consisting of Dr. R.N. Makroo (New Delhi-India), Dr. Bharat Singh (New Delhi-India) and Dr. N.K. Bhatia (New Delhi-India) to initiate and start this program within this year end. The progress might be reported to Governing Body regularly.

The meeting ended with a vote of thanks to the chair.

(Dr. N. Choudhury)

Secretary General, SAATM



Light moments at SAATM

MASSIVE TRANSFUSION:

Where are we now?

Dr.R.N.Makroo

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Introduction

Major hemorrhage is a leading cause of mortality world over. Traditionally, massive transfusion has been defined as the replacement of the patient's total blood volume in less than 24 hours or replacement of more than 50% of the patient's blood volume within 3-4 hours. However, most of the studies done on

this subject have considered transfusion of 10 or more PRBC (Packed Red Blood Cells) units in 24 hours as a defining criterion for massive transfusion.

Pathophysiology

Massive blood loss commonly occurs in trauma patients, patients undergoing extensive surgeries e.g. solid organ transplantation, aneurysm repairs as well as in certain obstetrical and medical conditions. This leads to a series of compensatory physiological changes namely tachycardia, vasoconstriction and the activation of cytokines and hormones, as well as the clotting cascade to try to preserve the ongoing intravascular volume loss. [1] The resulting tissue hypoperfusion (shock) leads to metabolic acidosis which further leads to hypothermia. The clotting factors and platelet function become deranged at a drop of core temperature to 35°C. [1-3] The resuscitation of patients with both crystalloid, or non-blood colloid solutions leads to haemodilution associated with clotting factor dilution, further exacerbating the potential for excessive bleeding and eventual

coagulopathy. ^[3, 4] All these factors combine to create what is known as the lethal triad of acidosis, hypothermia and ongoing coagulopathy ('the vicious cycle'). ^[1]

Management

Although, the concepts of damage control surgery and resuscitation have now evolved as aggressive treatment regimens to avoid the development of this triad ^[5], the concept of massive transfusion, itself, came into recognition predominantly during the World Wars. The benefits of whole blood transfusion for traumatic hemorrhagic shock became apparent during World War II ^[6]. Since then, management of massive bleeding has been one of the most talked about controversies. The major issues of debate have been the use of fresh blood versus stored blood, whole blood versus components and last but not the least the ratio of various blood components to be given.

It was the knowledge of various storage lesions that led to the debate whether to use fresh blood or stored blood for the

purpose of massive transfusion. The term "storage lesion" is used to describe the progressive degradation of red cell structure and function that occurs during storage. The most important ones of these being shape change of erythrocytes leading to decreased survival, decreased oxygen delivery due to decreased 2,3 – diphosphoglyceric acid (2,3-DPG), decreased ATP and accumulation of bioactive substances like cytokines, histamines, lipids and enzymes that lead to febrile transfusion reactions and immunological activation or suppression. ^[7]

The consensus has gradually shifted from usage of fresh blood to stored blood for the purpose of massive transfusions. This was a result of several challenges that were faced by the concept of using fresh blood like the availability of a ready volunteer donor pool, prior infectious marker testing, and cross match compatibility and also increased transmission of transfusion transmitted infections (TTIs). Microchimerism and TA-GVHD (Transfusion Associated Graft Versus Host Disease) were also reported with

the use of fresh blood. Finally there were studies that disproved any relation between the use of stored RBCs and morbidity. [8, 9]

The next point of controversy was to choose between whole blood and blood components. Initially the transfusion of whole blood was recommended and a study by Ronald D. Miller, [10] concluded that FFP (Fresh Frozen Plasma) was ineffective and should not be part of a massive transfusion paradigm for treating coagulopathies. Yet, Leslie and Toy [11] found the prothrombin and partial thromboplastin times sufficiently prolonged to necessitate FFP therapy after administration of 12 units of blood. Further, the crossing of blood group barrier and use of alternative blood groups due to minimal plasma content in packed red cells came up as a major boon to emergency blood demands with the advancements in component therapy. Appropriate proportions of various blood components that should be used to compensate for the losses were the next to be worked out. The Berne concept of component therapy was introduced in 1992 (table 1)

Blood loss	Component therapy
20%	Plasma substitutes (Crystalloids, Colloids)
20-50%	3-4 PRBC units with plasma substitutes
>50%	PRBC:FFP; 3:1
>150%	PRBC, FFP, PC

Table 1 [13] **Berne concept of component therapy**

Latest reports based on retrospective observations indicate that red cells, plasma and platelets in a 1: 1: 1 ratio i.e. equal parts of PRBCs, FFP and Platelet Concentrates (PC) should be provided to massively bleeding patients, which simulates the composition of whole blood [12]. Many studies have demonstrated that patients transfused with higher FFP: PRBC ratio have a better outcome [14-18]. These strategies have been said to improve patient survival, reduce hospital / intensive care unit (ICU) length of stay, decrease ventilator days, and reduce patient care costs [19]

Borgman et al demonstrated that early and aggressive replacement of coagulation factors is associated with improved survival in trauma patients requiring massive transfusion. The mortality was 65% for an FFP: RBC (Red blood cells) ratio of 1 : 8, 34% for a ratio of 1 : 2.5, and 19% for 1 : 1.4 [20].

In addition, various laboratory parameters like haemoglobin, platelet count, Prothrombin Time (PT), Partial Thromboplastin Time (PTT), fibrinogen levels and along with relevant clinical considerations should be used to guide effective management and blood component replacement.

Complications

Although, transfusion of blood components is imperative to prevent mortality in patients with massive blood loss, their use is not free from complications and adverse events. However, these can be effectively minimized with a planned and vigilant transfusion strategy. Various adverse effects associated with massive

transfusion and ways to overcome these are summarized below.

Increased oxygen affinity of RBCs

Storage impairs the ability of the red blood cells to release oxygen. The levels of 2,3-diphosphoglyceric acid decrease in stored blood which shifts the blood's oxygen dissociation curve to the left. Blood merely acts as a volume expander in the initial few hours of transfusion. A rapid rise in the 2, 3 -diphosphoglyceric acid levels thereafter, restores normal oxygen affinity.

Hypothermia

Hypothermia is caused by the administration of blood products and other resuscitation fluids without prior warming. The adverse effects of hypothermia in trauma patients include major coagulation derangements, peripheral vasoconstriction, metabolic acidosis, compensatory increased oxygen requirements during rewarming, and impaired immune response. This can be minimized by using fluid warming devices such as in line blood warmers. In addition convective warming can be

used to maintain appropriate room temperature.

Citrate Intoxication, Hyperkalemia

Blood is stored in citrate phosphate dextrose with or without additive solutions at 4⁰C. Citrate, being a calcium chelator, an excessive dose during massive transfusion may result in decreased serum levels of ionized calcium. This can be corrected by infusing appropriate dosage of calcium gluconate/ calcium chloride.

The potassium level in stored blood rises with length of storage. Note for signs of hyperkalemia by monitoring the ECG. Treatment of hyperkalemia with calcium chloride, bicarbonate, glucose and insulin may be necessary at times.

Hemolytic Transfusion Reactions

Although extremely rare, acute hemolytic reactions may occur from errors involving ABO incompatibility. This highlights the importance of verifying and identifying each and every donor unit for recipient compatibility both at the source and the user end. In case of a hemolytic transfusion reaction,

stop transfusion immediately and maintain systemic perfusion and renal blood flow. The suspected unit should be sent back to the blood bank along with requisite samples for evaluation.

Non hemolytic transfusion reactions are relatively more frequent especially with components containing plasma such as FFP and platelets. These are in most instances, a result of an allergic response to plasma proteins. Febrile non hemolytic transfusion reactions can to a large extent be minimized by using prestorage leucoreduced blood.

Infection

In spite of extensive screening protocols for infectious markers, transfusion centres across the globe are still struggling to achieve “zero risk blood”. Among the various transfusion transmissible infections, hepatitis B is still the most clinically significant, with a per unit risk of 1: 82,000. ^[19] The risk of contracting HIV, on the other hand is to the tune of 1:4.7 million and that for HCV is approximately 1:3.1 million per unit of transfused blood. ^[23] The chances of contracting viral infection especially

HBV and HCV is much more in the developing countries including India.^[24]

However, the introduction of latest technologies for screening of transfusion transmitted infections, like fourth generation ELISA tests and Nucleic Acid Amplification Testing (NAT) have contributed significantly to improve the safety of blood and blood components.

Incidence of bacterial infection through blood components especially platelets is a hot topic these days. Since platelets are stored at room temperature making them liable for bacterial contamination.

Avoidance of unnecessary transfusions by lowering the transfusion trigger may aid in minimising such adverse events. Further, red cell salvage and use of oxygen-carrying red blood cell substitutes can be helpful in this regard.

Dilutional Coagulopathy

Patients undergoing massive transfusion may suffer from coagulopathy after replacement of approximately 1 blood volume due to dilution of various coagulation factors especially Factor V, VIII and fibrinogen. This may result in microvascular bleeding and clinical

evidence of coagulopathy^[25-27] which may be corrected with early transfusion of an appropriate dosage of fresh frozen plasma. An INR within the range of 1–1.5 X the normal should ideally be targeted.^[21]

Similarly, dilutional thrombocytopenia is another cause of hemorrhagic diathesis in these patients, which can be taken care of by transfusion of platelets. Platelets should be maintained over 50000/mm³.^[21]

Transfusion-Induced

Immunosuppression

Blood transfusion therapy is also associated with allosensitization, immunosuppression, and an increased incidence of postoperative infections. These effects may be mediated by reduced lymphocyte function, down regulation of macrophage function, and altered cytokine production and activity. This can similarly be avoided by lowering the transfusion trigger, Red cell salvage and use of oxygen-carrying red blood cell substitutes. The use of third-generation leukocyte filters reduces the chances of immunosuppression.

Prestorage leucoreduction further enhances blood safety.

Emerging technologies for reducing blood use

Since, blood transfusion is not completely devoid of complications and adverse effects, continuous efforts toward developing newer technologies to arrest bleeding and minimise the use of blood and blood components are being made. Some of these newer initiatives are Thromboelastography (TEG) that provides better end points to guide transfusions, fibrin sealants, antifibrinolytics, Recombinant factor VIIa and Artificial hemoglobin-based oxygen carriers.

The Apollo Experience

In our experience at Indraprastha Apollo Hospitals, we have observed that owing to a ready availability of all blood components, strengthened by the fact that they are thoroughly tested and to a large extent leucoreduced, component therapy has been well accepted by our clinical colleagues. We have observed an approximate 28% mortality rate among

the massively transfused. A definite shift in the trend towards the use of FFP and PCs in a near 1:1 ratio with PRBCs has been observed over a period of time, resulting in not just a decrease in overall mortality but also a reduction in the average length of stay among the massively transfused patients. The rate of non hemolytic transfusion reactions at our institute was approximately 0.04 % in 2010. A hemolytic transfusion reaction among the massively transfused patients has not been reported till date.

Conclusion

The main priorities in the management of massive blood loss are controlling hemorrhage and restoring adequate oxygen delivery to tissues. Resuscitation with crystalloids and blood components in accordance with the latest guidelines, clinical situation and laboratory parameters are imperative to reduce the number of such potentially preventable deaths.

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**VOLUNTARY BLOOD DONORS,
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REPLACEMENT BLOOD DONATION SYSTEM IN BANGLADESH.

Dr Kazi Mumtaz Huda
Apollo Hospitals Dhaka

In the recent years although the Replacement Blood Donation System has replaced the Professional Blood Donation System in Bangladesh, safety issues are still plaguing us. People who come to donate blood as replacement blood donors often do so willingly but sometimes under pressure of friends and family members. Blood banks are also accepting their blood relatively without any hesitation to serve the emergency circumstances.

A five years Statistics from Apollo Hospitals Dhaka shows that 1.44%% of these replacements donors are positive for HBsAg, which even the donors are unaware of. They are usually carriers. Most of them are from educated and rich family backgrounds and yet they do not have any knowledge on the route of transmission of their infection or the fact that they even have it or how might they would have prevented it. So they are spreading the infection without any knowledge of it.

Safe donation mostly comes from voluntary non remunerated repeated donors. However what we need today is mass awareness and programs through which the prevalence and spread of the infections will be minimized. I

recommend both the government and non government sectors to take some major steps in educating the masses, including the youth, in schools, colleges, universities and working areas for better knowledge of such problems. Health screening in these areas are also highly encouraged along with the awareness programs, in order to prevent the spread of the infection. The government and responsible organizations must also strictly monitor the compulsory vaccination programs in the country. This is a highly alarming situation that needs the immediate attention of both the government and the non government organizations.

SAATM Bangladesh developments

SAATM Bangladesh chapter is currently very active and organized. The organizing committee has been taking constructive decisions. An informal meeting, with experts from Transfusion Medicine, was held after the SAATM conference in Dhaka. It was organized by Dr. Badrul and he is also in contact with these experts of Transfusion Medicine on a regular basis. We have planned to call a formal monthly meeting by the end of September. I am glad to let you know that more experts are taking part in its membership programme. The organizing committee is also planning to conduct a blood donation programme and a CME program in Transfusion Medicine by the end of 2011

**WORLD BLOOD DONOR DAY,
2011 CELEBRATIONS HELD AT
THE INDRAPRASTHA APOLLO
HOSPITALS, NEW DELHI, INDIA**



Dr A. K. Walia at the WBDD Celebration

Indraprastha Apollo Hospitals, New Delhi, organised a grand function on the occasion of World Blood Donor Day on 14th June 2011. Several dignitaries like Dr.A.K.Walia, Minister Health and Family welfare, Govt. of NCT Delhi, Dr S.P.Aggarwal, Secretary General, Indian Red Cross Society, Mr. Jaideep Gupta, M.D. Indraprastha Apollo Hospital, Justice S.N. Dhingra and Dr. R.N.Makroo, Director, Transfusion Medicine, Indraprastha Apollo Hospitals were present on this occasion. The

theme of the seminar was ‘Promotion of voluntary blood donation’.

The event saw the participation and felicitation of about 200 people that included regular repeat voluntary donors. A colourful skit was presented



The lamp lighting ceremony

by the Department of Transfusion Medicine, Indraprastha Apollo Hospitals, which conveyed the message of usefulness of blood donation. The thalassemic children, through their song, stressed the dire necessity of donating blood.

The theme of the blood donor day this year was, ‘MORE BLOOD, MORE LIVES’. According to WHO, if 1% of a country’s population donates blood, it would be sufficient to meet the country’s

basic requirements for blood. Speaking on the theme Mr. Jaideep Gupta said that there was urgency for the people to make a habit of regular voluntary donation. He added that with the advent of component therapy, one whole blood donation can be of use to three individuals. Dr. R.N. Makroo speaking on the occasion said that donation of blood makes the individual more healthy by decreasing the rate of heart attack by a third. He sadly explained that voluntary donors in this country donate mostly once which makes them equivalent to replacement donors. He thus stressed the need of regular repeat non remunerated voluntary donors to increase the blood safety. He called the donors real national heroes who by their deeds save lives.



Dignitaries at WBDD function



Team transfusion medicine with Dr. Walia



**Bangabandhu Sheikh Mujib Medical
University**

NO.BSMMU/2011/8009

Date 27/07/2011

**Sub: Regarding admission in Diploma
in Blood Serology and Transfusion
(DBS&T) course.**

The foreign student do not require to appear at the written test but must have to submit their application in prescribed form with necessary documents to the Admission committee before the last date of submission of application and will have to viva voce before an interview board formed by the University Authority.

Admission eligibility for Foreign
Students & Documents to be submitted
with application:

- i) Foreign students are to apply through their respective High Commission/ Embassy in Bangladesh.
- ii) Their MBBS/ BDS/ equivalent Certificate/ degree will be required to get equivalency recognition from BMDC (Bangladesh Medical & Dental Council).
- iii) They must have an IELTS score of minimum 5.0. IELTS will not be required for the candidates completed courses in English Medium.

This is also for your kind information that application for admission in Diploma in Blood Serology and Transfusion (DBS&T) course are invited for July session in each year.

Admission notice is published in the national dailies. For further information you are requested to contact the Controller of examination of this University. Application form can also be obtained from Web site www.bsmmu.org.

You may collect prescribed form from Pubali Bank Ltd. Shahbagh Avenue, Dhaka on Payment of U\$\$60 (Non Refundable) Payable to BSMMU Examination fund SB A/C No.13692. After selection at the joining of the course you have also to pay U\$\$ 1100 (One thousand one hundred) for one year tuition fee U\$\$ 1000 and registration fee U\$\$ 100.

Md.Abdul Alim
Deputy Registrar.
BSMMU, Dhaka



**THE MEASURE OF A LIFE,
AFTER ALL, IS NOT ITS
DURATION, BUT ITS DONATION.**

DONATE BLOOD SAVE LIVES.

UP COMING EVENTS:

29.08.2011 - 03.09.2011

XXIV World Congress of the International Society for Forensic Genetics ISFG, Vienna, Austria.

22.10.2011 - 25.10.2011

AABB, Annual Conference, San Diego, California, U.S.A.

20.11.2011 - 23.11.2011

XXII Regional Congress of the ISBT, Asia, Taipei, Taiwan

07.07.2012 - 12.07.2012

XXXIII International Congress of the ISBT, Cancun, Mexico



A hearty welcome to Blood4all, a nonprofit organization dedicated to the service of humanity beyond the political boundaries. We aim to better the quality of life in our city, country and around the world by making available the precious crimson jewel “the Blood” to all those in dire need.

Our organization is committed to create a database of willing blood donors so that the individuals with the particular blood group can be contacted when there is a need/emergency. From the most common blood group to the rarest, defying all boundaries, the site has a huge database of blood donors. So in case of an emergency/need, you need to contact us, and we assure that you will be helped.

You can also register as a blood donor at the site and save the life of someone

else's loved one. Pass the message. And let's build a community that cares. The site will not restrict itself to just maintenance of blood donor repository but a forum for exchange of ideas and experience for all the blood donors giving special emphasis to their apprehensions, fears and all the factors that refrain them from blood donation. To achieve the objectives of the society, and to mobilize public opinion in favor of blood donation the society would carry on the public campaign through various media as may appear suitable for the objectives of the society and also establish collaboration with other allied National and International Societies.

Blood4all site:

Voluntary donors please register at:

www.blood4all.net

Or

<http://www.facebook.com/groups/blood4all.net>

“MOTIVATION IS WHAT GETS YOU STARTED. HABIT IS WHAT KEEPS YOU GOING.”