



Review of the Abstracts on Advances in Transfusion Medicine at Hematocon 2018

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Received: 10 December 2018 / Accepted: 2 May 2019 / Published online: 7 May 2019
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Abstract Research issues are gradually being focussed upon in the fast evolving discipline of blood transfusion services (BTS), that was initially focussed on development of a safe and adequate blood and blood component supply. The poster presentations of ongoing research in the BTS at the Haematocon 2018 dwelt upon the knowledge, attitude and practice studies with reference to voluntary blood donation, analysis of the reasons for blood donor deferral, role of donor infectious disease screening towards early clinical intervention in the asymptomatic blood donor, the clinical trigger for red blood cells transfusion and its effect on length of stay in hospital and morbidity, maximum surgical blood ordering schedule, massive transfusion and alloimmunization apart from granulocyte transfusion and internal audit of platelet usage in BTS. Research across all dimensions of the BTS covering the entire spectrum from donors' vein to the recipients' completing the "vein to vein" transfusion chain in the Indian context will help generate evidence to lay a sound foundation for the blood services.

Keywords National blood policy · Knowledge attitude and practice · Voluntary blood donation · Maximum surgical blood ordering schedule · Massive transfusions

Introduction

Transfusion medicine is one of the fast evolving disciplines of modern medicine that has unique interface with volunteer blood donors at one end, the service element of blood and blood component supply at the other end and the clinical interface of therapeutic interventions of plasma exchange. There is potential for research across all dimensions of this field covering the entire spectrum from donors' vein to the recipients' completing the "vein to vein" transfusion chain. However there are only a select few academic departments of Transfusion medicine in the country and research issues in the field are gradually emerging and being focussed upon.

Methodology

All poster presentations which were published in the abstract book of the Indian Journal of Hematology and Blood Transfusion (IJHBT) an official publication of the Indian Society of Hematology and Blood Transfusion (ISHTM) and the salient recent research in the field was also examined.

Knowledge Attitude and Practice Studies

These studies are important as the National Blood Policy (NBP) of India, advocates knowledge, attitude and practice (KAP) studies in order to bring out factual information using operational research on voluntary blood donation (VBD) keeping in view the Objective-1 which states as; "To reiterate firmly the Government's commitment to provide safe and adequate quantity of blood, blood components and blood products" [1]. Singh and colleagues

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from Sonapat, India have noted in their KAP study that the health care workers have good knowledge and attitude towards blood donation in majority of respondents, but only a few of them are come forward to donate [2]. These observations are similar to the findings obtained in similar KAP study by Das and colleagues and assumes importance in view of the observations of Mishra et al., both from Chandigarh, India that blood donor information, education, motivation and recruitment strategies should be based on knowledge of the myths and misconceptions of potential blood donor base in the region in order to achieve national targets of blood requirements [3, 4].

Quality Indicator of Blood Donor Selection

Analysis of the pattern and rate of donor deferral is important as this is a key quality indicator of the efficiency of blood donor selection in order to establish a safe blood supply that safe guards the health of the potential blood donor. Yadav and colleagues from New Delhi, India reported low hemoglobin, infections and medication intake as the three important reasons for donor deferral in their study [5]. Low hemoglobin is by far the most common reason for blood door deferral observed in the other different studies from India.

Secondary Prevention: Diagnosing Infections in Apparently Healthy Individuals

Kesarkhane and colleagues from Miraj, India have brought out the very important role of the BTS, acting as a miniature public health model by diagnosing the undiagnosed infections in apparently healthy asymptomatic people and referring them for treatment thereby reinforcing the secondary prevention [6]. This important aspect has been previously highlighted in the study from Chandigarh India [7].

Clinical Trigger for Red Blood Cell Transfusion

Sharma and colleagues from Raipur, India presented the assessment of red blood cell transfusions and their effect on length of stay (LOS) in hospital and mortality in surgical and medical and paediatric patients. They reported that the threshold for transfusion in surgical patients was not significantly related with either LOS or mortality. The Hemoglobin threshold in medical and paediatric patients was correlating with the LOS, but not with mortality. More studies on this aspect would enable a better understanding of the long term effects of RBC transfusions and help to develop evidence based hemoglobin triggers for transfusion in the country [8].

Establishing a Blood Ordering Schedule for Surgical Interventions

Maximum Surgical Blood Ordering Schedule (MSBOS) establishment has been traditionally taught to impact a decrease in workload of pre transfusion laboratory, in turn results in appropriate management of available blood inventory, decreasing wastage and optimizing running financial expenditure of the BTS. Shastry and colleagues presented findings that reinforce the role of MSBOS as a tool in practice having decreased crossmatch to transfusion (C/T) ratio from 4.57 to 3.14 (49.5%) [9].

Massive Transfusions (MT)

MT is required in massive bleeds and in order to prevent the lethal triad of hypothermia, acidosis and coagulopathy that are of prime concern. There is a lot of research on the laboratory parameters available to monitor such patients as well as debate on as to what would constitute the better ratio of packed red blood cells (PRBC): fresh frozen plasma (FFP): platelets in such patients to fine tune the delicate balance between maintaining adequate circulation and homeostasis of haemostasis. There are two studies on MT, Mohan and colleagues from Udipi, India reported that the positive predictive value of thromboelastography (TEG) was superior to that of conventional coagulation tests like prothrombin time (PT) and activated partial thromboplastin time (aPPT) [10]. Singh and colleagues from Chandigarh, India presented that PRBC: FFP ratio of 0.5 to 1.5 was associated with significantly decreased bleeding and a rise in hemoglobin in trauma and obstetric patients [11].

Complication of RBC Transfusion in Terms of Alloimmunization

Alloimmunization is a challenge for BTS to manage once it develops either after a single unit of RBC transfusion or after multiple transfusions. It is essentially influenced by a complex interplay of genetic mismatch between donor and recipients' antigen profile on RBC's, environmental and clinical factors. Prakhya and colleagues from New Delhi, India reported an interesting case series wherein a combined alloantibody formation of anti c and anti E was detected and resolved timely by the BTS in three different clinical settings [12].

Granulocyte Transfusions

A granulocyte transfusion is a very important supportive therapy in patients with life-threatening neutropenia or neutrophil dysfunction. Sontakke and colleagues from

Mumbai, India report a case, wherein a patient with having a very low absolute neutrophil Count (ANC) presenting with *Klebsiella* and *Candidiasis* was successfully managed utilizing antibiotics under the support of granulocyte transfusions [13].

Audit of Platelet Transfusion

Internal audits are known to drive the continuous cycle of total quality management. Varsha Shree and colleagues from Kolar, India reported that the most common indication for platelets in neonates was the diagnosis of sepsis. They concluded that regular audits actually help in initiation of necessary remedial measures towards advocacy of judicious usage of the precious platelet concentrate [14].

Discussion

There was a fair representation of poster presentation covering some aspects of the BTS, highlighted in the commentary, but it did not cover the entire spectrum of “vein to vein” transfusion chain. Research on the clinical effects of blood transfusion, hemovigilance in addition to the research focussing on the volunteer donor safety, transfusion safety of the blood product, patient blood management and impact of newer testing technology modalities in the Indian context will help generate evidence to lay a sound foundation for the blood services.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval Not sought as this article does not contain any studies with human participants performed by the authors.

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