The ORBCoN Report
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in this Issue

What's New at ORBCoN

Wendy Owens, Program Manager, ORBCoN

The focus of this edition of the ORBCoN Report is Plasma Protein Products (PPP). From its inception, ORBCoN has been working with hospital staff and staff at the Ministry of Health and Long-Term Care (MOHLTC) Blood Programs Coordinating Office (BPCO) to continually improve the management of PPPs in Ontario. The ORBCoN redistribution team, led by Tracy Cameron, collaborates with the Hemophilia Clinic at St. Michael's Hospital and the Provincial Hemophilia Coordinator, Sarah Crymble, to facilitate the provincial PPP redistribution program. In the past 32 months, in collaboration with Ontario hospital transfusion staff, the PPP redistribution program has potentially prevented the outdating of 4736 vials of PPPs worth over 7 million dollars! ORBCoN staff (project lead Laurie Young) also provides support to the Ontario IVIG Advisory Panel and the work that is done to support the MOHLTC IVIG Utilization Strategy.

One of the initiatives being planned for March 2016 is a 'Redistribution Summit'. This meeting will bring together many stakeholders of the transfusion community to discuss improvements to the redistribution of PPPs and fresh components to ensure the ongoing success of these two programs.

As a new addition to the ORBCoN Report, you will find the 'Safety Corner'. This article will be a case report highlighting situations where lessons can be learned to improve patient safety relating to transfusion of blood components and products. We hope to include these examples highlighting patient safety in all of our future newsletters. Please contact us if you have a patient safety case report you would like to share with your colleagues in our newsletter.

We would like to extend our thanks to all of you who contribute to both the redistribution program and the IVIG Strategy initiatives and we hope that you enjoy this edition of the newsletter.

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IVIG at the Hospital Level

Laura Harrison, Transfusion Safety Officer, Trillium Health Partners

The first mandated MOHLTC IVIG Strategy was introduced to Ontario hospitals in April 2012, with an expected implementation date of June 2012. The objective was to limit the use of IVIG to approved indications, to dose patients more appropriately using the Dose Calculator, and to increase monitoring of patients for efficacy, in order to make IVIG treatment sustainable. **Impact:** As with most new initiatives, the development, training, education and rollout took some time and the extra workload involved in the process change had to be absorbed. Nursing staff were responsible for ensuring the MOHLTC IVIG Request Form was completed before product was prepared and issued. The Blood Transfusion Lab (BTL) was now responsible for screening IVIG orders, confirming the dose calculation, initiating communication with the physician if the dose needed to be changed, and monitoring when a new form was required for long-term patients. The ongoing assessment of treatment efficacy was to be documented by the physician when a new form was required. In 2013-14 the MOHLTC reported a significant reduction in IVIG use following strategy implementation. That information validated to the BTL and Nursing staff that the added workload was supporting the success. **Current Status:** Three years later we are again faced with the reality of an 8-10% yearly increase in IVIG use. High users of IVIG received a request for information into their usage. We were already screening patients for indications, getting approval for the occasional "other" request and using the dose calculator. We conducted an internal audit to shed some light on the number of patients and the treatment indications. This was not an easy task as most of our data had to be gathered manually.
Audit Results: The results showed significant changes had taken place since the 2012 implementation of the IVIG strategy. The number of patients had significantly increased at one of our hospital sites despite transitioning several patients to a home infusion program.

Site	No. of Pts 2013-14	No. of Pts 2014-15
CVH	99	144
MH&QHC	84	96

Both single and long-term treatment indications have increased. (Not full data). Single treatment patients, though generally urgent and needing high doses, do not require significant volumes of product. Patients diagnosed with ITP may be transient users or transition to chronic ongoing treatment. An increase in long-term patients will significantly increase IVIG use over time.

Indication	Treatment	No. of Pts 2013-14	No. of Pts 2014-15
Kawasaki	Single	9	14
Toxic Shock	Single	6	15
ITP	Either	38	54
CIDP	Long-term	21	29
SID	Long-term	14	21

Future Direction: A recent MOHLTC IVIG letter provided direction on new strategies to keep IVIG treatment as a sustainable option. Updated indications, formalized screening and review processes, online data entry, outcome questionnaires, and regular compliance audits are part of the update planned for implementation in 2016-17. We await details of the changes to be implemented and the impact to hospitals. Until these details are available we will continue with our current process, which has proven successful.

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Factor First - a critical philosophy and program for the emergency management of persons with bleeding disorders

Michelle Sholzberg MDCM, FRCPC, Hematologist and Medical Director of the Coagulation Laboratory and Sarah Crymble, Ontario Hemophilia Provincial Coordinator, St. Michael's Hospital

In the year 2000, the principle of "factor first" was formalized to enhance timely and efficacious management of individuals with bleeding disorders who present to the emergency room as it was well recognized that early and appropriate treatment of each bleeding episode is critical to reduce the risk of complications. Minimization of the "time from door to vein" was developed from the benchmarks set forth by the guiding principles of heart attack and stroke management.

To facilitate the rapid and targeted management of bleeding in a person with a bleeding disorder, it was recognized that a change in practice needed to occur. To implement this change, a pan-Canadian emergency room educational program was developed which included the creation of personalized Factor First wallet cards with treatment recommendations for patients with bleeding disorders. The program was endorsed by the Canadian Hemophilia Society (CHS) the Association of Hemophilia Clinic Directors of Canada (AHCDC) and the Canadian Association of Emergency Physicians (CAEP). In addition to the Factor First cards, other activities to promote effective and efficient bleeding patient management included the development of emergency room treatment guidelines for persons with bleeding disorders and the amendment of ER triage guidelines amongst many other endeavours. These guidelines were promoted by the aforementioned association websites and were published in the Canadian Journal of Emergency Medicine.

The underlying principle of factor first, is that in a person with a bleeding disorder, treat first with pro-hemostatic therapy and perform diagnostic tests later, when it is safe to do so. The program was initially developed with Hemophilia and von Willebrand disease patients in mind, however, the philosophy and programmatic elements have since been extended to include all inherited and some acquired bleeding disorders. Treatment first and foremost for suspected or proven bleeding is a valued mantra by patients and health care professionals alike.

Case Study -Prewarming of liquid IVIG preparations to room temperature prior to administration may avoid reactions and improve patient satisfaction

Ruth Padmore MD, FRCP(C) and Christine Campbell, MLT, ART, Eastern Ontario Regional Laboratory Association – Renfrew Victoria Hospital

A patient with a chronic condition requiring IVIG therapy was treated at a community hospital, receiving lyophilized Gammagard S/D® for a number of years with no adverse events. When CBS broadened their supplier list of IVIG, this patient was switched to Privigen. The patient reacted to Privigen, developing an itchy rash. Trials of other liquid preparation of IVIG were tried (IGIVnex®/Gamunex®) with the patient persistently developing rash after infusion. The patient was switched back to Gammagard S/D® with no further reactions. A few years later, the patient was admitted to a tertiary care hospital. The patient received the usual dose of IVIG, in the form of IGIVnex® which had been warmed to room temperature prior to administration, in accordance with the policy at the tertiary care hospital. The patient received the pre-warmed IVIG with no reaction. Upon the return of the patient to the community hospital, the patient now routinely received IGIV®/Gamunex® which has been pre-warmed to room temperature prior to administration and the patient has had no subsequent reactions to the IVIG infusion. The policies and procedures at the community hospital have been updated so that all IVIG products are brought to room temperature prior to infusion.

Safety Corner

ANTI-D in a Young D-Negative Woman

Allison Collins MD FRCPC, ORBCoN Physician Clinical Coordinator

Setting: A 21-year-old woman presented to the Emergency Department one evening with a history of abdominal pain. As part of the clinical workup, a type and screen was ordered. The patient typed as D negative, with anti-D at a 4+ reaction strength in the antibody screen using a gel card method. The blood bank technologist telephoned the Emergency Department, asking for a history of pregnancy, transfusion, or recent injection of Rh immune globulin (RhIG). The Emergency room nurse was very busy, told the technologist that this was none of her business, and refused to answer any questions. **Description of event:** Eventually, the technologist found a mention in the hospital information system that the patient had been to a 'clinic' in Toronto. She telephoned the 'clinic' but the staff there, understandably, refused to release any information without the written consent of the patient. The next morning, the Charge Technologist contacted the attending physician. The 'clinic' was an abortion clinic, and the patient had received RhIG the previous week, following an induced abortion. The anti-D was passively-acquired due to RhIG. **Conclusion:** The finding of anti-D in a young D negative woman is of concern, and clinical history is critically important in the differentiation of passive from immune anti-D. If the anti-D is passively-acquired, the patient is a future candidate for RhIG. If the anti-D is immune, she will no longer benefit from RhIG prophylaxis. Depending on the antibody screen method used, passive anti-D may be detected as long as 6 months after RhIG injection, although reaction strength decreases over time (Reference). The blood bank staff is part of the patient care team, and relevant clinical history must not be withheld from them if it is required for test interpretation. Transfusion medicine laboratory staff must be able to communicate to other health care providers the rationale behind their questions, and reluctance on the part of the nursing staff to provide clinical history may prompt involvement of the transfusion service medical director.

Reference: Szkotak AJ et al. Interpretation of pretransfusion testing in obstetrical patients who have received antepartum Rh immunoglobulin prophylaxis**:** Vox Sanguinis. 2016:110(1):51-59.

Upcoming Educational Events Calendar

Event	Date	Location
ORBCoN Provincial Transfusion Committee Forum	April 8, 2016	DoubleTree by Hilton, Toronto
NE CBS/ORBCoN Videoconference Symposium	April 13, 2016	Ontario Telemedicine Network/ Brockville Hospital
Canadian Society for Transfusion Medicine (CSTM)	May 12-15, 2016	Vancouver, BC

You wouldn't just decide to forget about recovering the black box after an air crash.
So why should it be thought so strange to want to learn from every accident in health care.
- Sir Liam Donaldson