The ORBCoN Report

Ontario Regional Blood Coordinating Network

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What's New at ORBCoN?

In April of this year the Ontario IVIG Strategy was released by the Ministry of Health and Long-Term Care. In this newsletter you will find articles focused on IVIG including the top 3 frequently asked questions regarding the strategy, IVIG dose calculator, and a case study regarding IVIG.
ORBCoN continues to provide resources for Ontario hospitals. Our recent releases include:

- Albumin Recommendations
- CME Accreditation has been granted through the University of Toronto for the Bloody Easy online learning program

Coming soon:

- Transfusion Committee Orientation Package
- Informed Consent Mobile Application

Ontario's IVIG Utilization Management Strategy

Ramona Muneswar, MOHLTC

By now, your hospital is well on its way to implementing the IVIG Strategy, launched April 4, 2012, by the Ministry of Health and Long-Term Care (MOHLTC), in partnership with ORBCoN and the Ontario IVIG Advisory Panel. The IVIG Strategy objective is to mitigate unsustainable increases in IVIG use to ensure that supply meets demand and to optimize patient safety.
To assist with implementation, a series of webinars were conducted and a Frequently Asked Questions document has been prepared to address the common questions and concerns.

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In particular, the MOHLTC IVIG Request Form is now editable to allow the addition of phone/fax numbers that are specific to a hospital's Pharmacy or Transfusion service. We would like to clarify that while it is recommended to adjust the dose for obese patients, the **prescribing physician/hospital** has the ultimate authority to apply clinical judgement to determine the most appropriate treatment for their patient.
To ensure comprehensive data collection, hospitals that use at least 1% of the province's total IVIG use should have received notification, on June 8, 2012, to participate in a three-month IVIG Utilization Audit beginning September 2012. Furthermore, the IVIG Advisory Panel membership has been expanded to include representation from specialities where IVIG is used to better inform the audit protocol and future strategies. All related documents can be found at www.transfusionontario.org.

Ontario IVIG Strategy: Top 3 Frequently Asked Questions

Kate Gagliardi and Laurie Young, ORBCoN Southwestern Ontario

The Ontario IVIG Strategy was launched on April 4, 2012 by the Blood Programs Coordinating Office of the Ministry of Health and Long-Term Care. In addition to the explanatory strategy document, form and guidelines, ORBCoN has prepared a "Frequently Asked Questions (FAQ)" document. The most recent version of the FAQ is posted at www.transfusionontario.org under Toolkits, IVIG.

Top 3 questions asked regarding the strategy:

1. Do we have to implement the IVIG Request Form by June 30? By the time you are reading this, the deadline will have passed. There is no mechanism to inspect facilities to ensure the form is being implemented on that timeline. Use of the form facilitates collection of information for audits of IVIG utilization, the results of which will drive future strategies related to curbing inappropriate use. Note: there will be a province wide audit commencing September 4, 2012.
2. How do we set up a process for approving IVIG requests, including who will do the screening of requests?
   Each hospital that has a transfusion service is required by accreditation to have a Medical Director for Transfusion Services. If IVIG is handled through Pharmacy, there is a most responsible person in that department. In each case, this is the person responsible for ensuring the strategy is implemented, and that includes finding the appropriate physician(s) to screen requests. In reality this will be challenging, whatever the size or complexity the hospital involved.
3. Can ORBCoN come to talk to the specialists at our facility?
   ORBCoN agrees that speaking directly with physicians who order IVIG is the best route. We just do not have the resources to attend in person, unless sessions can be arranged when we are also coming to the facility for an annual site visit. A recorded session of the initial IVIG strategy launch webinar is available on our website, and we also have a script to go along with some slides if you would like to provide sessions of your own.

Contact Laurie Young layoung@mcmaster.ca or Kate Gagliardi gaglikat@hhsc.ca with any new questions. All documents can be found at www.transfusionontario.org.

Using the IVIG Dose Calculator in an IVIG Approval Process

Yulia Lin, Sunnybrook Health Sciences Centre

IVIG has garnered the attention of the Ontario Ministry of Health because of its ever growing use and cost. Presently, it is responsible for 19% of the entire Canadian Blood Services Budget.[1] Unlike other blood products, IVIG is not only used as a blood replacement product but also used in the treatment of a multitude of different diseases spanning across various specialties such as hematology, neurology, dermatology, rheumatology, immunology and organ transplantation. Dosing of the blood product is weight based which is also worrisome considering recent studies showing that 35% of the population is obese (BMI ≥ 30).[2] Finally, IVIG is not without its side effect, the most concerning being hemolytic reactions due to anti-A and anti-B. With the increasing application of IVIG to an ever expanding list of diagnoses accompanied by the expanding waistline of our patients, there is cause for concern. We need to take steps to ensure that we have adequate funds and an adequate IVIG supply for patients who truly require IVIG and that we administer it safely minimizing its potential adverse effects.

At Sunnybrook Health Sciences Centre, we conducted a 9 month audit in March to November 2011 following implementation of an IVIG approval process which included the use of an IVIG approval form and an adjusted body weight dose calculator.[3] Eighty-six orders were received

Using the IVIG Dose Calculator in an IVIG Approval Process *continued*

during the audit period, covering 59% of the IVIG issued during the period as only new orders were processed using the approval process starting in March 2011. Most of the indications met the ORBCON criteria for IVIG use. Forty-seven percent of patients were receiving chronic monthly IVIG treatments. The median BMI was 25.6 (range 19.0-44.4). During the audit period, 30% of requests required an order modification with the majority being a dose decrease using the adjusted body weight calculator. As a result, over 700 grams of IVIG was saved during the time period representing a 6% decrease in IVIG use. At a cost of $63/g, this resulted in a savings of over $44,000. During the time period, we did not receive reports of any hemolytic reactions nor any concerns regarding a decline in efficacy of the IVIG treatment.

Ensuring that we have adequate resources is key particularly in the current fiscal climate. Speaking with clinicians about indications for IVIG is challenging particularly when the use of the product spans such varied fields of expertise. Although it is important to ensure that IVIG is used appropriately, the evidence base for many indications is not strong. The evidence base for different doses is even weaker. Using the adjusted body weight dose calculator, results in small changes in the dose; for chronic treatment, this may add up to significant savings over the long term. This will help to reduce adverse effects for the patient and ensure that we have adequate resources for all of our patients who require this expensive therapy.

The adjusted body weight dose calculator is available at www.transfusionontario.org

References:

1. CBS Annual report 2010-11. Available at: http://video.bloodservices.ca/Annual2011/
2. Flegal KM, Carroll MD, Kit BK, et al. Prevalence of Obesity and Trends in the Distribution of Body Mass Index Among US Adults, 1999-2010. JAMA 2012;307:491-7.
3. Chow S, Salmasi G, Callum JL, Lin Y. Trimming the fat with an IVIG approval process. Transfusion Apheresis and Science 2012; Apr 12 2012 [epub ahead of print].

CASE STUDY: The Dilemma

Julie DiTomasso, Ontario TTISS Coordinator

A 5 year old male child is seen in hospital A in the emergency department. The child presented with a 1 day history of continued bruising following slight trauma (bumping his head while playing). Initial blood work showed thrombocytopenia with a platelet count of $1x10^9$/L, and a normal hemoglobin of 121g/L. Past medical history was unremarkable for the child and the child's parents. Hospital A consults with the Pediatric Oncology service at Hospital B for treatment options. The decision was made to treat at Hospital A with IVIG at a dose of 1g/kg on day 1. Patient's weight was 20kg and a dose of 20g was ordered and infused. A second dose of 20g was ordered and infused on day 2 and a third dose of 20g was ordered and infused on Day 3. Following the infusion on day 3, Methylprednisolone was also administered.

Subsequently, Hospital A became concerned when following treatment, the child's hemoglobin dropped into the 50s with some bloody emesis observed. The child was transferred to Hospital B for further investigation. Blood work on arrival showed a hemoglobin of 58g/L and a platelet count of $8x10^9$/L. A request for red cells and platelets for transfusion was received in the Transfusion Medicine department. Testing showed the child to be group A, with a positive direct antiglobulin test with IgG

CASE STUDY: The Dilemma *continued*

coating the patient's red cells. An eluate showed a strong anti-A. A repeat CBC prior to transfusion demonstrated a further drop in hemoglobin to 45g/L. A platelet and red cell transfusion was transfused and follow-up blood work collected. Post transfusion the hemoglobin increased to 86g/L and the platelet count rose to $22x10^9$/L. Subsequent testing showed continual improvement in the child's results. ORBCoN guidelines for treatment of ITP in pediatrics recommends one dose of 0.8 to 1.0g/kg with a repeat dose given within 48 hours if the platelet count has not increased to greater than $20x10^9$/L. Maximum dosing according to this guideline would be 2g/kg. The patient highlighted in this case report received 3g/kg. Hemoglobin dropped on day 4 following the third infusion. However, hemolysis has been reported following IVIG infusion of 2 g/kg and we are unable to determine if this patient would have experienced hemolysis even if the extra dose had not been infused. Further invasive testing (bone marrow) was performed on the child to rule out other causes of anemia.

Upcoming Educational Events Calendar

Event	Where	When
CBS Research and Development Symposium	University of Toronto, Toronto	September 8, 2012
U of T Transfusion Rounds	Onsite-TBA	3rd Thurs of each month commencing September 21, 2012
Annual ORBCoN Provincial Transfusion Committee Forum	Radisson Admiral, Toronto	September 24, 2012
GHEST Annual Transfusion Seminar	Holiday Inn, Burlington	September 29, 2012
London Laboratory Services Group – Annual Transfusion Medicine symposium	TBA	November 3, 2012

For a complete list of upcoming events please visit www.transfusionontario.org

Quote

Respect is earned: Honesty is appreciated: Trust is gained: Loyalty is returned
~ Unknown

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