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Bloody Good News

Newfoundland and Labrador Provincial Blood Coordinating Program

Special Interest Articles:

- Report on Licensing of Medical Laboratory Technologists
- Transfusion Errors

Individual Highlights:

NL Society for Medical Laboratory Science President's Report: Licensing Update and Survey

We are presently at a cross roads in regards to the regulation of Medical Laboratory Technologists in the Province of Newfoundland and Labrador. We, as a Society, will have to make a decision as to whether we will continue to have a Provincial Society as well as a Provincial College or have our Society become our College and have our National Society, the CSMLS, become our advocacy body for the Province.

One of the main goals of our Society, as stated in our By Laws, is to become a licensed body. We are now very close to this goal and we have to choose to either have our Society become our College (as in the Provinces of Nova Scotia, New Brunswick and Saskatchewan) or have both a separate Society and College (as in the Provinces of Alberta, Ontario, Quebec and Manitoba). The smaller provinces have chosen to have their Societies become their Colleges because of a smaller number of members to support both a College and a Society. Both organizations would have to have a Board of Directors and be supported financially by its membership according to the Health Professional Act.

As a College we would not be able to advocate to government on behalf of the membership. That could still be carried out by the CSMLS. However, we could continue with our goals of promoting professional development, increasing the public awareness of the profession and increasing awareness of the profession among other heath care groups through cooperation.

Blood Product Utilization in NL

Blood products are distributed by Canadian Blood Services (CBS) to hospitals in Newfoundland and Labrador. The rate of distribution is monitored by the Provincial Blood Coordinating Program through the monthly disposition reports sent by NL hospitals to CBS quarterly financial reports obtained from Canadian Blood Services.

The blood products in which there is a high utilization rate consist of Intravenous Immune Globulin, Albumin, Starch Volume Expanders (SVE) ie.Pentaspan and Voluven, and the coagulation factors, Recombinant Factor VIII (rFVIII) and Recombinant Factor IX (rFIX). These products demonstrate increasing use over the past four years with NL growth exceeding that of all the other provinces in the per capita use of starch volume expanders and rFIX .

The Provincial Blood Coordinating Program will be reviewing utilization of these products within the 2010-2011 fiscal year to identify where the greatest regional use occurs. Utilization practices will also be evaluated in an effort to promote appropriate use of these blood products.

The intended outcome is to determine why there is such a high utilization rate. Are there unique populations within the province whereby patient needs indicate that pockets of clinical conditions exist geographically or is there a genetic predisposition to certain conditions or another explanation. We shall also look at utilization practices within the hospitals with the assistance of our Transfusion Safety Officers located in the Regional Health Authorities.

As new blood products enter the marketplace and eventually hospitals and patient care treatment, we will highlight these products and their indications for use.

NLSMLS President's Report: Licensing Update and Survey (cont'd)

Our main Goal as a College will be public protection and public safety with respect to the practice of medical laboratory medicine.

It must be noted however that as a College we will only be able to regulate/license Medical Laboratory Technologists and not Medical Laboratory Assistants under the Act. Thus far in the regulations of the Act, MLA's are not included. The Licensing committee has made recommendations to government to have this group as members of our College and license them by the Health Professional Council under our College but they have yet to decide on this recommendation. At best, the MLA's could become associated members of the College as in other provinces that are licensed, until the government decides to regulate them as a separate group or become licensed members of our College.

I would now like to Survey the membership to help make a decision as to whether we should have both a Society and a College or have our Society become our College. If we decide to have just a College, we hope that the elections that are due at the next AGM will form the Board that will carry out the duties of the College. The By Laws that we presently have will then become the By Laws of the College with some minor adjustments.
Send your completed survey to the Director in your region by September 15, 2010. The tabulated results will be published on the NLSMLS web site and announced at the Annual General Meeting.

If for some reason you do not receive a survey, contact your regional Director for a copy.

Yours in
Medical Laboratory Science,
Curtis J Martin

New Hospital Liaison Specialist for NL

Dorothy Harris has expanded her role as Canadian Blood Services Hospital Liaison Specialist (HLS) to include NS/NL hospitals in addition to the hospitals in NB/PEI where she has been HLS for the past 5 years.

Dorothy has 30 years experience in the field of transfusion medicine and looks forward to meeting and working with NL hospital customers. Dorothy can be reached by telephone at 506-648-5054 (toll free 1-888-992-5663)

"I think that somehow, we learn who we really are and then live with that decision".

Eleanor Roosevelt
1884-1962
US Diplomat & Reformer

Informed Consent

Is Informed consent about the form?

Informed consent requires more than getting a patient's signature on the consent form. Similar to the cyclist, Lance Armstrong's great accomplishment of winning seven consecutive tour de France races and his book titled "It's Not About the Bike", the bike was just one aspect required to successfully defend his championship.

Providing adequate and accurate information regarding transfusions, assessing the patient's understanding and signing the consent form is essential to the process of informed consent. Quality informed consent requires continuous examination and revision. It's not about the form.

The purpose of informed consent is to fully inform patients of healthcare treatments, improve patients understanding and provide patients with autonomy to fully participate in decisions about their healthcare. The consequences of a lack of informed consent can breach legal and ethical rights, increase the potential for medical errors and constitute malpractice.

The CSA standards state that informed consent must be obtained from the patient prior to a transfusion. The informed consent process should include a discussion with the patient that consists of a description, implications, risks, benefits and alternatives to the transfusion. An assessment of the patients' understanding about transfusions is equally important as signing the informed consent form.

The PBCP are in the process of finalizing the informed consent process through creating guidelines and pamphlets that will enable healthcare providers to overcome some of the patient challenges of informed consent. Informing patients of various transfusion treatments requires taking into consideration patients ethnic, literacy and language barriers, cognitive and learning disabilities and impairments, patient confusion, information overload and patient anxiety.

With a better comprehension and understanding of transfusions, the informed consent process allows the patient to understand the consequences of their treatment and participate in their healthcare decisions and it allows healthcare professionals to optimize patient safety and quality of care.

Transfusion Errors

Despite hemovigilance, policies, guidelines, education and quality improvement initiatives, transfusion errors that involve a failure in the performance of standard operating procedures continue to occur.

Transfusion errors are estimated to occur as frequently as 1: 12000 transfusions and lead to immediate, serious consequences and even death. Errors in transfusion can happen at any point during the transfusion process. According to the 2009 Serious Hazards of Transfusion (SHOT) Report , the four main types of errors include phlebotomy errors, laboratory errors, blood administration errors and transfusion of blood components not meeting special requirements of patient's, with the patient's bedside being the single most common place for transfusion errors to occur.

The decision to transfuse should be based on the patient's medical condition and clinical signs and symptoms collaborated with laboratory results. Each healthcare facility should have guidelines on transfusion indications. The physician's order should provide the blood bank laboratory and nursing staff with sufficient information regarding the patient's transfusion history and special blood requirements. Failure to provide important details has potential for error and may negatively influence the patient's outcome.

Transfusion literature has shown that phlebotomy sample errors generally result from insufficient positive patient identification, which can include blood samples collected from the wrong patient, mislabeling of samples or submitting unlabeled samples for laboratory testing.

Fortunately, most errors in the blood bank laboratory are benign, however there is potential for a fatal error with ABO incompatibility. Testing the wrong sample, failing to review the blood order (requisition), not checking the patient's transfusion history, transcription errors and issuing the wrong units, are errors that can occur in the blood bank laboratory.

Some of the common nursing errors that occur include omitting to check that a blood product or component have been prescribed for a specific patient, transcription errors, order entry errors occur when blood products and components are ordered on the wrong patient and component request errors occur when nurses fail to recognize that the patient requires special products (CMV, Irradiated). The potential for nursing errors escalate during the final bedside check before a transfusion takes place due to incomplete positive patient identification and the absence of bedside checks. Positive patient identification errors occur when nurses fail to ensure patients' are wearing an armband and that the name correctly identifies the patient, check the patient's identification against the patient's armband and or fail to involve the patient in the checking process.

The absence of a bedside check involves a nurse incorrectly checking the blood product or component in a remote area away from the bedside and/or patient. This can include handling and processing blood for more than one patient and thus increases the potential for error. The failure of true positive patient identification and bedside checks can result in failure to detect discrepancies in blood products, components and patient identification and can result in patients receiving incompatible blood products or components and or blood products and components intended for another patient.
Lack of knowledge of blood product and component types and administration procedures can lead to the incorrect type of component being administered, failure to adequately recognize and or document signs and symptoms of a transfusion reaction and blood being discarded due to failure to monitor the infusion site, rate and initiation and completion of the transfusion.

Error reporting and corrective actions are vital in reducing the number of errors and improving the transfusion process. The prevention of blood transfusion errors must focus on ensuring proper blood collection technique, accurate labeling of blood specimens and promote accurate positive patient identification. Ongoing improvements in information technology systems, strengthening and refining current policies and procedures, providing training and educational in-services in transfusion medicine and implementation of error tracking systems such as TESS (Transfusion Error Surveillance System) that are for reporting incidents and near misses in a timely manner are essential to improving transfusion safety and preventing the recurrence of transfusion errors.

Upcoming Events:

- Provincial Blood Coordinating Program Blood Symposium Nov 18, 2010
- NL Society for Medical Laboratory Science Annual Congress, October 13-16, 2010 in St. John's

PBCP activities

The PBCP has been very busy developing new documents for its Quality Manual while at the same time revising existing documents. This is a very intense and yet rewarding experience for all of us at the Program.
We are also busy preparing our annual reports on red blood cell and platelet utilization, adverse event reporting and IVIG utilization. Our biggest undertaking is the Informed Consent and Patient Notification guidelines we hope to complete by Fall 2010.

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See us at:
http://www.health.gov.nl.ca/health/bloodservices/index.html

Transfusion-Induced Iron Overload

For patients with chronic anemia, regular blood transfusions are the main available treatment. These regular blood transfusions may represent a significant morbidity or mortality risk. Patients who have received ten or more blood transfusions are at risk for iron overload.

A unit of red blood cells may contain 150 to 250 mg of iron. The body does not have a natural way to rid itself of this excess iron, so extra transfusional iron is deposited in the liver, heart and other organs as free iron, which overtime can cause organ dysfunction and damage.

Most patients have no symptoms of iron overload, while others experience symptoms such as fatigue, low sex drive, joint pain and skin discoloration. If iron overload goes undetected it can lead to serious problems such as liver disease, heart failure or endocrine dysfunction.

Therapeutic phlebotomy is not usually an option for patients with transfusion-induced iron overload because they are already anemic. For those unable to tolerate therapeutic phlebotomy, chelating agents are available. The primary goal of iron chelation is to prevent the accumulation of excess iron by binding with iron in the blood stream and enhancing its elimination via urine and feces.

Increased awareness of the risks of iron overload in patients requiring chronic transfusion therapy is needed. In patients at risk, screening for iron overload by a simple blood test called serum ferritin will lead to earlier treatments and thereby improve the patient's outcome.

Case Study #10

A 69 year old male hematology patient with severe neutropenia required a platelet transfusion after chemotherapy. The patient had previously been transfused within the past three months and was not pre-medicated. The patient's vital signs pre-transfusion were stable.

Ten minutes into the platelet transfusion the patient developed chills and rigors, flushing and tightness of his face and head, lower back pain and chest pain. The patient became anxious and started to vomit. The patient's blood pressure increased from 110/70 to 140/80, his other vital signs remained unchanged.

The platelet transfusion was stopped. Antihistamines, antiemetics, steroids and nitro spray were administered. Laboratory results indicated the patient's CK and Troponin levels and product culture were negative.

1. Classify type of reaction

2. What was the relationship of the adverse event to the transfusion?

3. What was the severity of the reaction?

4. What was the outcome of the adverse event?

Case Study #9 Interpretation

1. *Type of Reaction – Acute Hemolytic Reaction*
2. *Relationship of adverse event to transfusion – Probable*
3. *Severity of the reaction –Grade 2 (Severe)*
4. *Outcome –Minor*

Each newsletter will contain an interesting case study for you to review. The type of adverse event and answers to the questions will be provided in the next edition of the newsletter.