Plenary Session 2: Anaphylactic Transfusion Reactions Additional Questions

1. **Do you treat an allergic reaction (anaphylaxis) the same way as other allergic reactions?**
   Answer:
   If I understand the question correctly, do we treat an anaphylactic transfusion reaction the same way as other allergic (i.e. minor/moderate) reactions?

   Management of allergic transfusion reactions differs based on the symptoms that the patient experiences (i.e., extent of the rash/itching, associated with other symptoms etc.), when transfused with blood products. Refer to the Acute Transfusion Reaction chart below, which summarizes the recommended investigations and management:

SIGNS & SYMPTOMS		TIMING	POSSIBLE ETIOLOGY	RECOMMENDED INVESTIGATIONS	SUGGESTED TREATMENT AND ACTIONS
URTICARIA (Hives) Rash **or** Itching	Less than 2/3 body surface but **NO** other symptoms	During or up to 4 hours post transfusion.	Minor allergic	No testing required	• Antihistamine • With physician order and if blood still viable, may resume transfusion with close patient assessment • If recurrent/severe reactions, possible trial of antihistamine premedication
	2/3 body surface or more but **NO** other symptoms	Often early in transfusion. During or up to 4 hours post transfusion.	Minor allergic (Extensive)	No testing required	**DO NOT restart transfusion** • Antihistamine; may require steroid if symptoms slow to resolve • If recurrent/severe reactions, possible trial of antihistamine /steroid premedication • If continued reactions with premedication, possible trial of washed/plasma depleted components
	With other symptoms, i.e., Airway or Facial Edema, DYSPNEA, HYPOTENSION	Often early in transfusion. During or up to 4 hours post transfusion.	Anaphylactoid reaction /Anaphylaxis	• If also DYSPNEA: chest X-ray, • If also hypoxia: blood gases • Suggest consult Transfusion Medicine physician: explore if indication for - TML: Group & Screen, DAT - Haptoglobin - IgA level (if pre-transfusion sample available) - Anti-IgA testing (performed via Canadian Blood Services, TML will assist in sending samples)	**DO NOT restart transfusion** • **Epinephrine;** consider steroid, antihistamine • Return blood to TML for clerical check • Supportive care per physician's discretion: oxygen, respiratory support, vasopressors • Pending outcome of investigations, washed/plasma depleted components • **Serious reaction, call TML immediately**

   Reference: TTISS-2020-10-08-Symptom-Transfusion-Reaction-Chart.pdf (mcmaster.ca)

2. **Does Canadian Blood Services (CBS) ask donors and document if they have ingested a common allergen when collecting blood?**
   Answer:
   CBS does not routinely ask the donors about their dietary history or give advice on intake of common allergens yet. Although, CBS has deferred donors who by reaction reporting have been found to be linked by flags on unusually severe or unexpected allergic spectrum reactions.

3. **Did you report the second anaphylactic reaction to Canadian Blood Services (CBS) as the platelet might have contributed to the adverse transfusion event?**
   Answer:
   No, the platelet was not flagged for CBS. Even though the possible imputabailty of platelet was considered, the patient received both plasma and platelet transfusions (the most allergenic of blood products due to the plasma contents therein) on three subsequent transfusion episodes with no reaction, arguing against the foregoing platelet exposure on the reaction day. The reaction was not reported to CBS as advised by our TM physician.

4. **Was there a specific type of tick that could be traced to the alpha gal syndrome?**
   Answer:
   Yes, alpha gal syndrome has been associated with tick bites specifically the **lone star tick**.

5. **Which tick causes the alpha gal syndrome?**
   Answer:
   Alpha gal syndrome has been associated with tick bites specifically the **lone star tick**.

6. **Briefly review the difference between Anaphylactic and Anaphylactoid reactions?**
   Answer:
   Clinically, there is no difference between Anaphylactic and Anaphylactoid reactions and they are indistinguishable. There is a distinction in mechanisms of how these reactions occur. Anaphylactic reactions are specifically mediated by IgE and on the other hand, the anaphylactoid reactions are not mediated by IgE.

7. **Is double washing RBC units ever indicated verses single washing RBC units for IgA deficiency?**
   Answer:
   UHN does not wash RBC units on site, we request and receive washed RBC units from Canadian Blood Services (CBS). CBS has been providing double washed RBC units when requested for IgA deficient patients. The current automated methodology used by CBS for “extra washed” RBC units has been validated to provide a component that meets the definition of being IgA deficient, containing less than 0.05 mg/dL of IgA protein.
   Reference:
   Irradiated, washed and CMV seronegative blood components | Professional Education