Conclusion: Case 1 (See full case below)

Aseptic meningitis secondary to Privigen.

This patient had more than one episode of aseptic meningitis to different brands of IVIG no matter the dose, the infusion rate or the presence or absence of premedication.

1. **What symptoms was it that made you lean toward aseptic meningitis rather than IVIg related headache?**

A diagnosis of IVIg related aseptic meningitis was favored over headache as this patient did not present isolated headache but also had signs and symptoms related to meningeal irritation such as neck stiffness as well as nausea and vomiting. Of note, other symptoms that can potentially be associated to aseptic meningitis include deterioration in mental status, fever, pharyngitis, photophobia, and/or diarrhea.

A lumbar puncture can be performed in some patients to confirm the diagnosis and, more importantly, to exclude other causes of meningitis such as viral or bacterial infection if this is part of the differential diagnosis. The analysis of the cerebrospinal fluid would show pleocytosis, mildly to moderately elevated protein with normal glucose concentration and no organism. However, lumbar puncture analysis is not mandatory to confirm the diagnosis of aseptic meningitis. In case of severe thrombocytopenia (for example when IVIG is used to treat severe ITP), brain imaging is required to rule out intracranial bleeding which can present with the same signs and symptoms.

**2. Would the treatment be the same for both IVIg related headache and aseptic meningitis**?

Both IVIg related headache and aseptic meningitis are transient self-limiting conditions with spontaneous improvement within a few days and are treated with supportive measures only. Proper hydration, antihistamines, analgesics, slow infusion and lower doses can help preventing the occurrence of this adverse event.

Relationship of adverse event to transfusion:

Possible

Severity of adverse event:

Grade 2 (severe)

Outcome of adverse event:

Minor or no sequelae

Recommendations:

Consider giving SCIG instead of IVIG as the patient reacted to more than one brand.

Take home message:

Communication of transfusion reactions to the Blood Bank is important as it can help to tailor the most appropriate treatment even though the patient still reacted the third time in this case.

**This is a 16-year-old boy**

**Admission:** IVIG replacement for hypogammaglobulinemia for prevention of infection in medical daycare

**Past medical history:**

1. Chronic autoimmune thrombocytopenia (ITP)
2. Hypogammaglobulinemia

**Transfusion history:**

* Blood group O+ and negative antibody screen
* Prior transfusions:
  + Age 9 – 1g/kg of IVIG (IGIVnex) with presentation of automimmune thrombocytopenia due a low platelet count of 6x109/L, petechial rash and gingival bleeding, CT scan showed no signs of intracranial hemorrhage
  + Age 15 -1 g/kg of IVIG (Gammunex) for a severe worsening of his thrombocytopenia with a platelet count of 6x109/L that was not responsive to oral steroids,
    - Adverse reaction of headaches which resolved quickly
    - CT scan showed no signs of hemorrhage

**Transfusion reaction details:**

* IVIG brand Privigen- 0.4g/kg, slow infursion (4.5 hours)
  + Premedication
    - 500 mg acetaminophen orally
    - Diphenhydramine 50 mg orally
    - Hyrocotrisone 100 mg IV
    - Hydration
  + Advised to take acetaminophen every 6 hours for 3 days and lots of water post transfusion

**Investigation and Management:**

* Post transfusion symptoms: Arriving home started to have severe headaches, neck stiffness, nausea and vomiting for a week post IVIG administration

No specific measures were taken. The patient did not have lumbar puncture or CT scan of his head. Of note, his platelet count was stable around 60x109/L at that ti