

Sedation and Intravenous Immunoglobulin (IVIG) Infusion Reactions in Kawasaki Disease Patients

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Introduction: Although IVIG infusions are usually well tolerated, reactions can include hypotension, tachycardia, fever, chills, and anaphylactic reactions. An echocardiogram is the preferred imaging modality to detect coronary artery changes in acute Kawasaki disease (KD), but the quality of the study can be compromised when a child is uncooperative (1). As a result, sedation is often required for children 6 months to 3 years of age. There is concern regarding co-administration of IVIG and sedatives, given the potential risk for hypotension associated with IVIG, which could be exacerbated by sedation.

The purpose of this analysis is to determine when the majority of IVIG infusion reactions occur to help find the optimal time to safely perform a sedated echocardiogram in KD patients.

Methods: This is a retrospective, single-center analysis of patients who met American Heart Association criteria for KD (2) and were treated with IVIG at Rady Children's Hospital San Diego from November 1, 2013 – October 31, 2016. An IVIG infusion reaction was defined as chills, hypotension for age, or anaphylaxis.

Results: Of the 260 subjects in this study, 33 (12.7%) had an IVIG infusion reaction consisting of either chills or hypotension. There were no anaphylactic reactions. Majority of infusion reactions, 31 (93.9%), occurred within 2.5 hours and all occurred within 4 hours of starting IVIG. No hypotension reactions occurred after 2.5 hours. All subjects were able to complete their IVIG infusion without any further complications.

Discussion: The concern of co-administration of sedation and IVIG is hypotension, but all hypotension reactions occurred within 2.5 hours of infusion. Given that the maximum IVIG infusion rate is reached at 3 hours per our hospital's policy and that the overwhelming majority of infusion reactions occurred within the first 2.5 hours, we found it is safe to co-administer IVIG with sedation 2.5 hours into infusion.

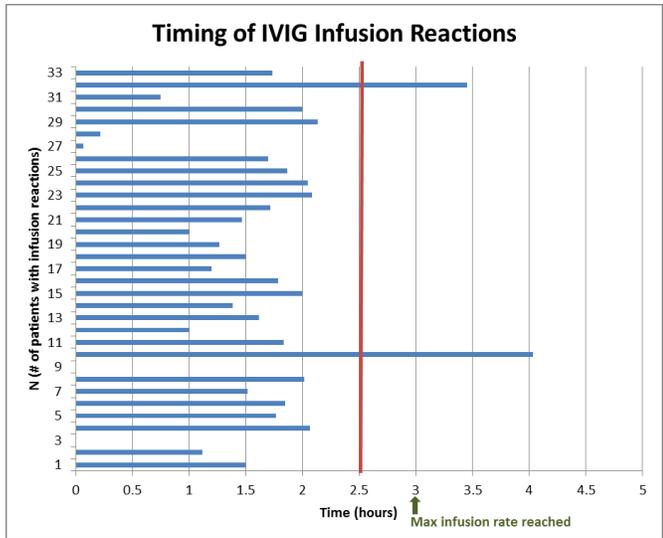


Figure 1.

Timing of IVIG infusion reactions. 93.9% (31/33) of infusion reactions occurred within 2.5 hours; all occurred within 4 hours of starting IVIG. Our hospital policy has defined a titration schedule for IVIG administration with maximum IVIG rate reached at 3 hours and usual completion of infusion at 10 hours.

Refs:

1. Margossian R. et al., J Americ Soc of Echocardio, 2011
2. McCrindle B. et al., Circulation, 2017