The objective of this analysis was to evaluate the incidence of anaphylaxis and IV site reactions associated with IV push thiamine” McLaughlin et al (2020).

Abstract:

OBJECTIVES: Intravenous (IV) thiamine, administered using both diluted solution for infusion and undiluted solution for IV push, is used to correct low levels of thiamine. Although thiamine has a good safety profile, its IV administration is associated with rare cases of anaphylaxis. The objective of this analysis was to evaluate the incidence of anaphylaxis and IV site reactions associated with IV push thiamine.

DESIGN: A single-center, retrospective chart review was performed using electronic health records.

SETTING AND PARTICIPANTS: All adult patients who received undiluted IV push thiamine between June 1, 2015, and July 31, 2017, were included. Patient demographics, IV access site, allergy history, and antihistaminic medication use before thiamine administration were collected.

OUTCOME MEASURES: Anaphylaxis was assessed while infiltration and phlebitis were evaluated using a standardized institutional grading system. All documented adverse events were adjudicated with the Naranjo Nomogram for adverse drug reaction assessment.

RESULTS: A total of 8606 administrations in 2595 patients were evaluated; 5560 doses were administered peripherally, 1643 doses were administered centrally, and the line of administration was not documented for the remaining doses. Administrations included 7605 doses of 100 mg, 433 of 200 mg, 549 of 250 mg, and 19 of 500 mg. No anaphylactic or anaphylactoid reactions were observed. A total of 26 injection site reactions (0.30%) were noted in 19 patients (phlebitis, 12 events and infiltration, 14 events). Assessment with the Naranjo Nomogram classified 18 reactions to have a possible likelihood and 8 reactions to have a probable likelihood of being caused by IV push thiamine administration.

CONCLUSION: Administration of IV push thiamine was not associated with any anaphylactic
event and had a low incidence of IV site reactions. IV push thiamine in doses up to 250 mg appeared to be safe. There may be an indication for its safe administration with doses up to 500 mg, although more research is needed.

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