ADVERSE EVENTS WITH PERFLUTREN LIPID MICROSPHERE INTRAVENOUS CONTRAST IN SUBJECTS WITH AND WITHOUT PATENT FORAMEN OVALE

Poster Contributions
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Background: Given the rising prevalence of obesity, there is increasing need for perflutren lipid microsphere intravenous contrast used during echocardiography. It is contraindicated in the known presence of intracardiac shunt (PFO). Using a large retrospective database, we determined the rate of adverse events associated with perflutren use, including events in subjects incidentally found to have a PFO.

Methods: All subjects who underwent transthoracic echo (TTE) with the use of perflutren contrast at a tertiary medical center 01/01/03 - 06/01/12 were retrospectively assessed. Subjects who experienced adverse events during the 48 hr periprocedural period were compared to those who had undergone TTE with bubble study. Crude and adjusted odds ratios for adverse reactions according to multiple covariates were calculated using multivariable logistic regression.

Results: Among 4722 subjects who underwent TTE with perflutren, 28 (0.59%) reported an adverse event within 48 hours. The most common events were back/flank pain (57.1%), headache (21.4%), dyspnea (14.3%), lightheadedness (10.7%) and flushing (10.7%). One patient required hospitalization due to an anaphylactoid reaction to contrast. No variable was associated with a higher likelihood of an adverse event, although female sex (OR 2.5, P = 0.055) and coronary artery disease (OR 2.9, P = 0.067) had a trend. Female sex was predictive of back pain post-perflutren (OR 7.4, P < 0.001). A higher BMI (OR 1.15 per 1 kg/m2 increase, P = 0.028) and stress echocardiography (OR 10.0, P = 0.044) were associated with headache/lightheadedness. There were no cerebrovascular events. In this cohort, a total of 60 subjects were found to have TTE evidence of PFO and had received perflutren; no adverse events were reported among this group.

Conclusions: Perflutren contrast proved safe in a large retrospective cohort of subjects collected over 10 years, with an event rate of about 1 in 200. Most adverse events were mild and transient. Female sex was associated with post-perflutren back pain, and higher BMI and stress testing were associated with headache. In a smaller sample of patients with PFO who received perflutren, there were no observed adverse reactions.