DEM Journal Club

Article Appraisal

Article: Association of Preprocedural Fasting With Outcomes of Emergency Department Sedation in Children

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Background and Study Objective(s):

Fasting guidelines have long been used for procedural sedation. The objective of the study was to examine the association between procedural fasting duration and the incidence of sedation-related adverse outcomes in a large sample of children.

Study Design:

The study is a planned secondary analysis of a multicenter prospective cohort study of children 0 to 18 years who received procedural sedation for a painful procedure in 6 Canadian pediatric EDs from July 2010 to February 2015. Of the estimated 9650 eligible sedations, 6295 (65.2%) were included in the final analysis. 2897 were missed (not charted electronically, charted electronically but did not submit date or declined consent), 32 were excluded because of duplicates or no medication recorded and 433 excluded because of data quality issues. 99.7% of the recruited patients had ASA physical status classification of I or II. Four outcomes were examined: pulmonary aspiration, the occurrence of any adverse event, serious adverse events (apnea, laryngospasm, hypotension, bradycardia, complete airway obstruction, clinically apparent pulmonary aspiration, permanent neurologic injury, or death) and vomiting.

Results:

Overall, there were 717 adverse events (11.6%). There were no cases of clinically apparent pulmonary aspiration. Oxygen desaturation (n=340; 5.5%) and vomiting (n=315; 5.1%) were the most common events. Only 6 of the vomiting events occurred during sedation. When adjusted for age, sex, sedation medication, and procedure type, the odds of an adverse event did not change significantly with each additional hour of fasting duration for both liquids and solids.

Validity of Results:

This was a large prospective cohort study with standardized adverse event definitions. However, the definition of fasting, the non-standardized sedation dosing regimen (including weight-based dosing and timing), and the

unclearness of outcome ascertainment are problematic. The small number (n = 112) of patients fasting less than 2h weakens conclusions.

Generalizability of Results:

This large study can likely generalized to a healthy pediatric population, but clinicians should still employ clinical judgement prior to any procedural sedation attempts.

The Bottom Line:

The current ACEP guidelines do not emphasize fasting. Sedation for painful procedures should not be delayed in most cases because of fasting time.