Are Propofol and Ketofol Interchangeable?

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In a randomized trial, three drug regimens for procedural sedation were equivalent, but the analysis was flawed.

For procedural sedation, the advantage of propofol is its short duration; its disadvantage is dose-related respiratory suppression. The advantage of ketamine is absence of respiratory suppression; its disadvantage is longer duration and emergence dysphoria, especially in adults. Investigators randomized 271 patients undergoing deep sedation to receive propofol, a 1:1 mixture of propofol and ketamine, or a 4:1 mixture of propofol and ketamine.

Emergence phenomena were more common in the group that received more ketamine (occurring in 21% of the 1:1 propofol/ketamine group vs. 8% of the propofol group and 10% of the 4:1 propofol/ketamine group). Respiratory suppression was more common in the groups that received more propofol (e.g., hypoxia in 38% of the propofol group and 56% of the 4:1 propofol/ketamine group, vs. 32% of the 1:1 propofol/ketamine group).

Comment: The authors compared the three groups as if they were independent, but they should have simply compared groups that received higher versus lower propofol doses. This approach led to their conclusion that outcomes were comparable in the three groups. An analysis that compared higher-dose propofol groups to the lower-dose group would probably have demonstrated just what we expect: propofol causes more respiratory suppression and ketamine causes more emergence phenomena. Each of these agents is safe for procedural sedation with appropriate patient selection, preparation, and monitoring, and they are safe together.

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