Propofol Might Be Better than Midazolam for Emergency Department Procedural Sedation

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In a retrospective cohort study, propofol was more effective than midazolam and just as safe.

Propofol and midazolam are each commonly used for procedural sedation in the emergency department (ED). To compare their efficacy and safety, investigators reviewed a convenience sample of procedural sedations performed at five hospitals in the Netherlands.

Of 592 patients treated, 284 received propofol (median dose, 75 mg) and 308 received midazolam (median dose, 4 mg). Those sedated with propofol were more likely to achieve deep sedation (45% vs. 25%), had a higher procedure success rate (92% vs. 81%), and had shorter median sedation duration (10 vs. 17 minutes). Apnea was more common with propofol (20% vs. 10%), but clinically relevant oxygen desaturation (<90%) was more common with midazolam (8% vs. 1%). No serious sedation-related adverse events occurred (including aspiration, laryngospasm or other airway obstruction not alleviated by simple airway maneuvers, intubation, hospitalization, or mortality).

Comment: Because of its retrospective design, this investigation was vulnerable to confounding by indication and operator skill level, but its results are logical given the pharmacology. Of note, midazolam was administered as a single agent, not in combination with fentanyl, which is more common. For brief, painful ED procedures, propofol is the go-to solo agent. Because apnea often occurs in propofol recipients, I recommend preoxygenation with high-flow oxygen via a nonrebreather mask. Ketamine is another great option but produces a longer duration of sedation. Low-dose midazolam still makes sense for taking the edge off in longer-duration, less-painful procedures (such as central line placement) in stable patients.

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