Atrium Health Wake Forest Baptist

NEWS RELEASE

Study shows sedative choice could improve outcomes for breathing tube patients

Large U.S. trial led by Vanderbilt University Medical Center and Wake Forest University School of Medicine shows etomidate improves outcomes for critically ill patients

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A large U.S. randomized trial published in the New England Journal of Medicine found that etomidate, compared with ketamine, reduces the risk of dangerously low blood pressure during emergency tracheal intubation without increasing mortality.

The Randomized Trial of Sedative Choice for Intubation (RSI) is the first multicenter trial to demonstrate significant cardiovascular risks of high doses of ketamine (low blood pressure, arrhythmia), side effects that have not been well studied in the past.

“We know that patients receive treatments every day in hospitals around the world that have never been evaluated in a rigorous study and may be ineffective or even harmful,” said lead author Jonathan Casey, M.D., associate professor of medicine in the Division of Allergy, Pulmonary and Critical Care Medicine at Vanderbilt University Medical Center.

“Studies like RSI are critically important to understand the treatments that patients are already receiving and to ensure that patients receive the treatments that will result in the best outcomes,” he said.

The RSI trial compared the use of ketamine and etomidate during tracheal intubation of 2,365 patients in 14 emergency departments and intensive care units in the U.S. The trial found that etomidate is safe to use, meaning it did not increase the risk of death, and that etomidate significantly decreased the risk of dangerously low blood pressures during the procedure, compared with ketamine.

Kevin Gibbs, M.D., associate professor of pulmonary, critical care, allergy and immunologic diseases, was the site principal investigator of the trial at Wake Forest University School of Medicine.

"For decades, ketamine and etomidate have been staples in emergency care, yet we haven't had enough data comparing them to know if one was safer for patients," said Gibbs. "Our trial finally answers that question.

"We learned that etomidate does not increase mortality and offers better blood pressure stability than ketamine during intubation. That's a critical finding for clinicians making split-second decisions. These results underscore why research must not only develop new treatments and devices but also examine the treatments already in use to ensure they truly deliver the best outcomes."

Read the **full press release** from Vanderbilt University Medical Center.

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