

Study finds acetaminophen significantly reduced in-hospital delirium

19 February 2019

As many as half of all patients who undergo cardiac surgery may experience delirium, a form of acute confusion that can result in disorientation, impaired memory, delusions, and abrupt changes in mood and behavior, including aggression.

In a new study published in the *Journal of the American Medical Association*, physician-researchers at Beth Israel Deaconess Medical Center found that intravenous acetaminophen significantly reduced the incidence of postoperative [delirium](#) following coronary artery bypass procedures in patients over 60. The findings of this single-center trial may represent the first steps toward a therapeutic intervention for the prevention of postoperative delirium, a common and devastating complication in the often highly vulnerable older adults who undergo [cardiac surgery](#).

"Currently, IV acetaminophen administration is considered an expensive intervention, and there is significant variation in [pain management](#) following cardiac surgery," said corresponding author Balachundhar Subramainam, MD, Ph.D., Director of the Center for Anesthesia Research Excellence in the Department of Anesthesia, Critical Care and Pain Medicine at BIDMC. "If our findings are replicated in a larger, multicenter study, postoperative intravenous administration of acetaminophen could become a standard of care in all cardiac surgical patients and could be incorporated in cardiac surgery recovery protocols."

Subramaniam and colleagues enrolled 120 patients 60 years or older who underwent coronary bypass graft surgery with or without valve repair at Beth Israel Deaconess Medical Center in Boston between September 2015 and April 2018. To evaluate the effect of IV acetaminophen on postoperative delirium, the researchers randomly assigned patients into one of four groups receiving different combinations of sedation and [pain](#)

[medication](#) after surgery: 29 participants received the sedative dexmedetomidine with IV acetaminophen, while 30 participants were given dexmedetomidine and placebo. Thirty-one patients were given the sedative propofol in combination with acetaminophen, and 30 received propofol with placebo.

Patients treated with acetaminophen demonstrated a significant reduction in in-hospital delirium. Only 10 percent of the group given acetaminophen experienced signs of delirium, compared to 28 percent of those given placebo. Moreover, those given acetaminophen also were more likely to have shorter stays in the intensive care unit, less breakthrough pain. Those patients who did experience delirium had shorter bouts of the acute confusion.

In addition to decreasing the incidence of delirium, adding acetaminophen to postoperative care also reduced the need for opioid painkillers in these patients, Subramaniam added.

"Postoperative pain is known to increase the risk for postoperative delirium, as is the use of opioids to manage postoperative pain," he said. "We found that the use of IV [acetaminophen](#) provided effective pain control, and we observed a noticeable sparing of opioids in the postoperative period with decreased duration of delirium and [intensive care unit](#) length of stay."

More information: *Journal of the American Medical Association* (2019). [DOI: 10.1001/jama.2019.0234](#)

Provided by Beth Israel Deaconess Medical Center

APA citation: Study finds acetaminophen significantly reduced in-hospital delirium (2019, February 19) retrieved 11 October 2022 from <https://medicalxpress.com/news/2019-02-acetaminophen-significantly-in-hospital-delirium.html>

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