

Treatment of asymptomatic elevated blood pressure linked to cardiac and kidney injury

June 1 2023, by Jacqueline Mitchell



Credit: Pixabay/CC0 Public Domain

Blood pressure is closely monitored in hospitalized patients. Severely high blood pressure can lead to a heart attack, stroke, or damage blood vessels and organs including the heart, brain, kidneys and eyes. However,

most hospitalized patients experience transiently elevated blood pressure without signs of organ damage, also referred to as asymptomatic hypertension, which is sometimes treated with blood pressure medications. However, little evidence exists to guide such treatment decisions.

In a [retrospective cohort study](#), physician-researchers at Beth Israel Deaconess Medical Center (BIDMC), examined the treatment of elevated blood pressure in more than 66,000 [older adults](#) who were hospitalized for non-cardiac conditions. The team found that receiving intensive antihypertensive treatment as an inpatient was linked with greater risk of adverse events, particularly for patients receiving the medication intravenously as opposed to orally.

The findings, published in *JAMA Internal Medicine*, do not support treating asymptomatic elevated blood pressure in hospitalized older adults and highlight the need for further study of best practices for management of inpatient blood pressure.

"While the benefits of lowering chronically elevated blood pressure in the outpatient setting are clearly defined and include reductions in mortality and cardiovascular events, better evidence is needed to inform clinical decision-making regarding inpatient blood pressure management," said corresponding author Timothy S. Anderson, MD, MAS, a clinical investigator in the Division of General Medicine at BIDMC.

"In the hospital, blood pressure is often elevated due to pain, fever, anxiety, new medication and other hospital factors. It is not clear that treating transient elevations with [blood pressure medications](#) is helpful, it may instead result in overtreatment."

Using clinical and pharmacy data from the national Veterans Health

Administration (VHA), Anderson and colleagues compared outcomes of hospitalized patients with elevated blood pressure who received intensive blood pressure treatment in the first 48 hours after admission to those who did not. The primary outcome was a composite of adverse effects including inpatient mortality, [acute kidney injury](#), cardiac injury, stroke, and transfer to the [intensive care unit](#).

The cohort included 66,140 older adults, primarily male, who were hospitalized for non-cardiac reasons and had elevated blood pressures in the first 48 hours of hospitalization. One in five patients (or more than 14,000 patients) received intensive treatment for blood pressure, defined as additional antihypertensive medications the patient had not been taking at home prior to hospitalization. Of this group, 18 percent (or more than 2,500 patients) received antihypertensive medication intravenously.

Compared to hospitalized patients with elevated blood pressure who did not receive intensive treatment within the first 48 hours of hospitalization, patients who received antihypertensive medication were at greater risk for adverse clinical outcomes, including cardiac injury, acute kidney injury, and ICU transfer. Receiving antihypertensives intravenously further heightened the risk.

"These findings suggest that the common practice of acutely treating asymptomatic inpatient blood pressure could be harmful and the use of intravenous antihypertensives in particular should be discouraged," said Anderson, who is also an assistant professor of medicine at Harvard Medical School.

"Until we have more definitive randomized clinical trial data, our findings suggest that the safest path forward is likely to rethink the underlying reason for inpatient blood pressure measurement and reorient clinical practice. In combination, these findings suggest that

pharmacologic treatment of asymptomatic elevated inpatient [blood pressure](#) should be the exception rather than the rule."

More information: Timothy S. Anderson et al, Clinical Outcomes of Intensive Inpatient Blood Pressure Management in Hospitalized Older Adults, *JAMA Internal Medicine* (2023). [DOI: 10.1001/jamainternmed.2023.1667](#)

Provided by Beth Israel Deaconess Medical Center

Citation: Treatment of asymptomatic elevated blood pressure linked to cardiac and kidney injury (2023, June 1) retrieved 23 June 2024 from <https://medicalxpress.com/news/2023-06-treatment-asymptomatic-elevated-blood-pressure.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.