Blood pressure declines 14 to 18 years before death

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Blood pressure in the elderly gradually begins to decrease about 14 or so years before death, according to a new study published today in the *JAMA Internal Medicine*.

Researchers from UConn Health and the University of Exeter Medical School in the U.K. looked at the electronic medical records of 46,634 British citizens who had died at age 60 or older. The large sample size included people who were healthy as well as those who had conditions such as heart disease or dementia.

They found blood pressure declines were steepest in patients with dementia, heart failure, late-in-life weight loss, and those who had high blood pressure to begin with. But long-term declines also occurred without the presence of any of these diagnoses.

"Our work highlights the importance of conducting research evaluating older patients like those seen in physician practices everywhere," said George Kuchel, one of the study authors and director of the University of Connecticut Center on Aging at UConn Health.

However, Kuchel emphasized, "I would be very concerned if anyone were to interpret our article as suggesting that hypertension should not be treated in late life or that they should stop their blood pressure medications."

The findings should make both doctors and researchers carefully consider what dropping blood pressure really means for older patients, he added.

Doctors have long known that in the average person, blood pressure rises from childhood to middle age. But normal blood pressure in the elderly has been less certain.

Some studies have indicated that blood pressure might drop in older patients and treatment for hypertension has been hypothesized as explaining late-life lower blood pressures. But this study found blood pressure declines were also present in those without hypertension

diagnoses or anti-hypertension medication prescriptions.

Further, the evidence was clear that the declines were not due simply to the early deaths of people with high blood pressure.

More research is needed to figure out why blood pressure declines in the elderly in this way. "Observational studies such as ours need to be followed by rigorous clinical trials in order to guide clinical care guidelines," said Kuchel.

More information: João Delgado et al, Blood Pressure Trajectories in the 20 Years Before Death, *JAMA Internal Medicine* (2017). DOI: 10.1001/jamainternmed.2017.7023

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