TRANSFORM-HF trial found no difference in effectiveness between 2 common loop diuretics

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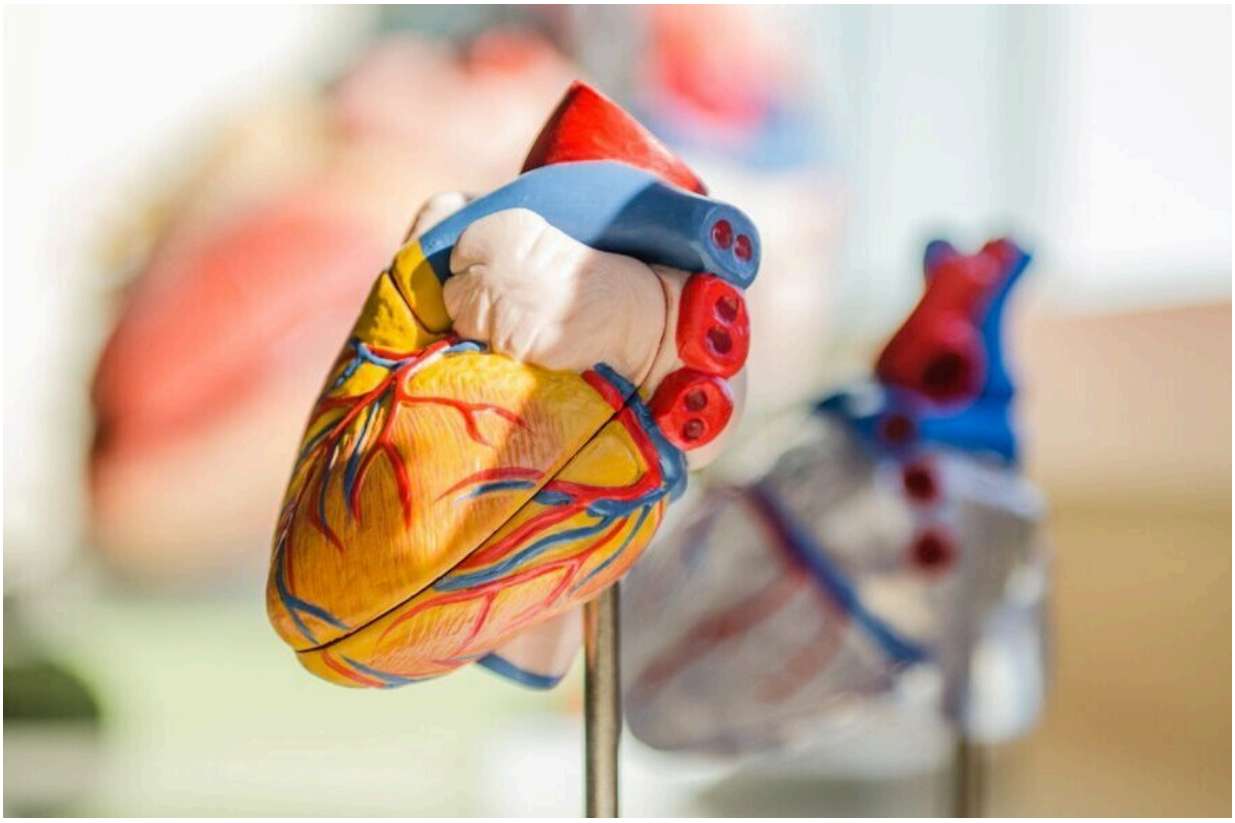

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After hospital discharge for heart failure, people treated with either loop diuretic medication furosemide or torsemide had similar death and

hospitalization rates, according to late-breaking science research presented today at the American Heart Association's Scientific Sessions 2022. The meeting, held in person in Chicago and virtually, Nov. 5-7, 2022, is a premier global exchange of the latest scientific advancements, research and evidence-based clinical practice updates in cardiovascular science.

According to the American Heart Association's Heart Disease and Stroke Statistics 2022 Update, about 6 million Americans ages 20 and older had heart failure in 2018. Many people with heart failure experience significant fluid build-up, which can cause body swelling and shortness of breath.

Loop diuretics block reabsorption of water and sodium in the kidneys and differ from many of the routine diuretics for blood pressure management. Furosemide is the most commonly prescribed loop diuretic; however, some data suggests torsemide may be absorbed more efficiently in the body and reduce deaths and hospitalizations. Researchers designed the TRANSFORM-HF (ToRsemide compArisoN with furoSemide FOR Management of Heart Failure) trial to compare the effectiveness of torsemide and furosemide in people with heart failure.

"We hoped to find that torsemide would reduce patient deaths and rehospitalizations," said the study's lead author Robert J. Mentz, M.D., FAHA, an associate professor of medicine, an associate professor of population health sciences at Duke University School of Medicine, and a chief of the heart failure section at Duke Clinical Research Institute in Durham, North Carolina.

Mentz and his co-authors designed a randomized study that directly compared the effects of one medication versus the other and embedded this in routine care to support the ability to apply the data to an everyday

clinical practice setting. The study was "open label," allowing both the health care professionals and the patients to know which treatment was being received. Both death and rehospitalization rates in people who had heart failure were tracked based on which loop diuretic was assigned.

Researchers began recruitment in June of 2018 at more than 60 hospitals across the U.S. Nearly 3,000 participants were enrolled and randomized to take one of the two diuretics: torsemide or furosemide. More than one-third of participants were women, one-third were Black adults, and the median age for all was 65 years.

Additionally, there was a broad range in the severity of heart failure among the participants and included newly diagnosed cases and worsening heart failure. Participants continued normal treatment routines with the main difference being which diuretic was part of their care plan. The trial used centralized follow-up through the Duke Clinical Research Institute Call Center with phone calls to all participants at 30 days, six months and 12 months after hospital discharge.

After a median of 17.4 months, the study found:

- Death rates were nearly identical among study participants in both the torsemide (26.1%) and the furosemide (26.2%) groups.
- At 12 months, all-cause death and hospitalization rates were also similar in the torsemide (47.3%) and furosemide (49%.3) groups.
- The primary outcome demonstrating furosemide equivalence to torsemide was the same across all pre-specified subgroups including ejection fraction group.

"We were disappointed at first because we hoped that there would be a significant clinical difference between these two medicines based on prior studies and clinical experience. While we did not see better outcomes with torsemide, these results help inform our ability to take

better care of people living with heart failure," Mentz said.

"Now that we have an answer in this debate, we encourage health care professionals to redirect time in a more patient-focused way. Rather than focus on one loop diuretic versus the other, we can focus efforts on making sure the appropriate dose of the loop diuretic is prescribed and re-double our efforts on the therapies that improve outcomes for our patients," he added.

Mentz also noted that the pragmatic nature of the study provided a more diverse group of participants than is normally found in a clinical trial, and he is encouraged at the efficiency, cost effectiveness and ease with which the trial was conducted.

One of the leading site principal investigators, Dr. Mitchell Psotka, M.D., Ph.D. at Inova Heart and Vascular Institute in Falls Church, Virginia noted, "The pragmatic nature of the trial with few exclusion criteria decreased the burden on our site coordinators and allowed efficient patient screening with rapid enrollment of far greater numbers of patients than typically achievable for an inpatient heart failure trial. TRANSFORM-HF sets the stage for the new era of heart failure investigation."

Mentz added, "This streamlined study type can be replicated in the future to answer other important clinical questions for our patients. In summary, through the TRANSFORM-HF trial, we answered a very common clinical question for people living with heart failure, and the study framework may be used to support future clinical trial endeavors as well."

The authors acknowledge several limitations in the study, specifically in its open-label design. Researchers also observed discontinuation of the diuretics and cross-over (switching between diuretics) during follow-up

calls with participants.

"It is possible patient or health care professional bias may have influenced a switch between medications over time," Mentz said. Additionally, the medication doses were at the discretion of clinicians to decide, which may have also influenced results. Future work will better assess the implications of cross-over and diuretic dose.

More information: Abstract: eppro02.ativ.me/src/EventPilot … le=agenda&tid=P21778

Provided by American Heart Association

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