Serelaxin reduces in-hospital worsening heart failure

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Serelaxin reduces the occurrence of in-hospital worsening heart failure by almost half in patients admitted for acute heart failure, according to the RELAX-AHF trial. The results were presented for the first time today at ESC Congress by co-principal investigator Professor John R. Teerlink.

Professor Teerlink said: "Serelaxin is a synthetic version of the naturally occurring hormone, relaxin, which is present in small amounts in both men and women. It is produced in large quantities during pregnancy, where it is believed to improve blood vessel, kidney and heart function. These beneficial effects in pregnancy provided the basis for studying serelaxin in patients with heart failure, where there are abnormalities in these functions."

RELAX-AHF was a randomised, double blind controlled trial that evaluated the effects of a 48-hour infusion of the intravenous drug, serelaxin, on clinical outcomes in 1 161 patients admitted to hospital for acute heart failure. Improvement in the initial signs and symptoms of heart failure, as well as reduced mortality, has already been reported with serelaxin from the RELAX-AHF trial.

The current analysis compared the serelaxin and placebo groups for the occurrence of worsening heart failure within the first 5 days of admission to hospital. The investigators found that within the first five days of admission, 12.2% of patients treated with standard of care had an episode of worsening heart failure, compared to 6.7% in patients

treated with serelaxin.

Serelaxin also reduced the occurrence of repeated episodes of worsening heart failure, resulting in a total of 87 worsening heart failure or death events in the placebo group compared to 43 such events in the serelaxin-treated patients. This reduction of worsening heart failure events by serelaxin was evident in patients regardless of the type or intensity of rescue therapies administered. For example, twice as many patients treated with standard care therapies had worsening heart failure requiring new intravenous therapies, doubling of their diuretic dose or mechanical support, compared to those treated with serelaxin.

Professor Teerlink, who is director of heart failure at the San Francisco Veterans Affairs Medical Center, University of California San Francisco, US, said: "These findings demonstrate immediate improvement in the patient's clinical course with serelaxin treatment and also support the earlier finding of an improvement in 180-day mortality with a 48-hour infusion of serelaxin. We are attempting to confirm the findings of improved survival with serelaxin in the ongoing RELAX-AHF-2 trial."

He added: "Patients admitted to hospital for heart failure can experience worsening heart failure despite current therapies, resulting in increased symptoms such as shortness of breath or a sense of drowning in their own fluids. It is difficult to predict who will have worsening heart failure, and these events are not only immediately very discomforting to the patient, but also have other important adverse impacts."

The current analysis also found that patients with worsening heart failure required intravenous medications for a longer time and spent an average of five and eight days longer in intensive care units and the entire hospitalisation, respectively. Additionally, these patients had increased markers of heart injury and kidney dysfunction, as well as persistent

congestion, compared to patients who did not experience worsening heart failure.

Professor Marco Metra, director of the Institute of Cardiology at the University and Civil Hospital of Brescia, Italy and co-principal investigator of RELAX-AHF, said: "We have reported that all of these adverse effects of a worsening heart failure event are related to increased overall mortality and that a worsening heart failure event itself is related to a two-fold increased risk of dying in 180 days."

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