Levosimendan fails to improve acute HF outcomes

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MedWire News: Levosimendan does not improve survival in patients with acute decompensated heart failure (ADHF) when compared with conventional dobutamine treatment, according to research published in this week's *Journal of the American Medical Association*.

Results of the Survival of Patients with Acute Heart Failure in Need of Intravenous Inotropic Support (SURVIVE) study showed that levosimendan treatment provided an initial reduction in plasma B-type natriuretic peptide (BNP) levels, but did not significantly reduce 180-day all-cause mortality or other clinical outcomes compared with dobutamine.

Appropriate treatment of ADHF is unclear, and although dobutamine relieves symptoms it has been associated with an increased risk of death and other cardiovascular events. A previous study suggested that levosimendan was associated with a lower risk of death than dobutamine.

Alexandre Mebazaa (Universite Paris Diderot, France) and team studied the effects of short-term intravenous infusion of levosimendan or dobutamine on long-term survival outcomes in 1327 patients admitted to hospital with ADHF who required inotropic support.

The researchers found that during the 180 days after drug infusion, 173 (26%) patients in the levosimendan group and 185 (28%) of the dobutamine-treated patients died, a nonsignificant between-group difference.

The levosimendan group had greater decreases in plasma BNP at 24 hours, persisting to 5 days, post-infusion than the dobutamine group (<0.001 all time points).

However, there were no significant differences between treatment groups in other secondary endpoints, namely all-cause death at 31 days, number of days alive and out of hospital, patient global assessment, patient assessment of dyspnea at 24 hours, and cardiovascular death at 180 days.

Compared with dobutamine-treated patients, levosimendan-treated patients were less likely to have cardiac failure and more likely to experience atrial fibrillation, hypokalemia, and headache in the initial 31 days.

"In conclusion, the SURVIVE trial demonstrated no survival difference between levosimendan and dobutamine during long-term follow-up despite evidence for an early reduction of plasma B-type natriuretic peptide level for levosimendan," the authors write.

"These findings may be related to the short duration of treatment in the trial, a selective effect of levosimendan in specific subgroups, or the lack of a true difference between the two drugs. Further studies are needed to distinguish between these possibilities."

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