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Reprive Cardiovascular Announces Late-Breaking Acute Heart Failure Clinical Trial Data

Potential New Treatment for Acute Heart Failure Presented at the Heart Failure 2019 Congress

- TARGET-1 and TARGET-2 trials: safe decongestion using first fully automated fluid management system
- Significant increase in diuresis, net negative fluid balance, improvement of kidney function and improvement in clinical symptoms
- Significant drop in CVP while systolic BP remained stable

MILFORD, MA – May 25, 2019 – [Reprive Cardiovascular™](#), a pioneering medical device company focused on improving outcomes for patients suffering from Acute Decompensated Heart Failure (ADHF), today announced the results of two non-randomized, prospective clinical trials in patients hospitalized with Acute Heart Failure (AHF). The two studies demonstrate that using Reprive-Guided Diuretic Therapy, the first fully automated fluid management system, allows for safe decongestion for patients with AHF. The results were presented today at the Heart Failure 2019 Congress, 25-28 May, in Athens, Greece.

The 19-patient TARGET-1 and TARGET-2 clinical trials were designed to determine whether the Reprive-Guided Diuretic Therapy system could achieve safe net volume reduction while significantly alleviating related symptoms in ADHF patients.

The data reported a significant increase in diuresis, net negative fluid balance, improved kidney function and improvement in clinical symptoms.

Patients served as their own controls with each patient undergoing 24 hours of standard diuretic therapy with intravenous furosemide followed by 24 hours of diuresis with the automated Reprive-Guided System. The average urine output increased from 1986 ml in the standard therapy to 6284 ml during a 24-hour therapy period. In addition, there were improvements in net fluid loss, and renal function accompanied by favorable hemodynamic changes.

“The therapy appears to be safe and quite effective,” said Professor Piotr Ponikowski, Professor of Cardiology at Wroclaw Medical University, Poland. “Reprive’s automated fluid management technology provided faster, more controlled fluid removal while protecting acute heart failure patients from dangerous drops in blood pressure. It maintained optimal intravascular fluid volume and with it, cardiac output and renal perfusion.”

ADHF is a sudden onset of heart failure symptoms, which typically include difficulty breathing (dyspnea), swelling in the extremities, and fatigue. The signs and symptoms of fluid overload are responsible for 90% of heart failure hospital admissions. Current treatment for ADHF includes diuretic therapy that aims to restore healthy fluid levels in the kidneys and throughout the body. Standard diuretic therapy, however, can be unpredictable and lose effectiveness as a patient's condition deteriorates. In some patients, diuretics can trigger a condition called "diuretic resistance," which blunts the function of diuretics and can exacerbate the severity of fluid overload, potentially resulting in acute kidney injury.

"Reprive-Guided Diuretic Therapy is among the first non-pharmacologic advance in treating fluid overload in Acute Heart Failure patients since diuretics were introduced in the 1960s," said Jim Dillon, Reprive Cardiovascular's President and CEO. "These results support our continued efforts to evaluate the impact of our therapy on alleviating the pain points clinicians continuously tell us about that complicate care of patients with acute heart failure. These include long hospital stays, high readmission rates, and ultimately poor long-term patient prognosis."

Problems and Optimization of Volume Management in AHF: Symposium 25 May, 12:15 pm (Session 2120, Agora 1)

Leading heart failure experts Howard Levin, M.D., Prof. Piotr Ponikowski and Jeffrey Testani, M.D. will discuss the latest advances in AHF treatment, including a novel physiological approach to volume management.

About Reprive Cardiovascular's Guided Diuretic Therapy

Reprive Cardiovascular's Guided Diuretic Therapy is designed to manage fluids during diuretic therapy for patients with Acute Decompensated Heart Failure (ADHF) and may relieve a number of symptoms related to this condition. The therapy has the potential to enable precise and predictable management of a patient's fluid levels, guarding against dangerous fluid imbalances and enabling better control over diuretic therapy, thus increasing diuretic efficiency. Potential benefits include speeding decongestion while protecting core organ function, reducing symptoms of congestive heart failure such as shortness of breath, ascites, and swelling, reduced time in hospital, reduced readmission rates, and a better quality of life for patients.

About Reprive Cardiovascular

Reprive Cardiovascular is a pioneering medical device company focused on automated fluid management technologies for acute heart failure. The company's Reprive technology is being investigated as an innovative fluid management treatment. Providing clinicians with the ability to precisely control a patient's fluid volume may enable improved cardiac care with safe, effective decongestion of acute decompensated heart failure patients (ADHF). Reprive Cardiovascular, Inc. and RenalGuard Solutions, Inc. are subsidiaries of parent company CardioRenal Systems, Inc. For more information, visit www.reprivecardio.com and follow Reprive Cardiovascular on Twitter at @RepriveCardio.

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