



Recently Published CARRESS-HF Per Protocol Analysis Demonstrates Greater Fluid Reduction in Heart Failure Patients Using CHF Solutions' Aquadex FlexFlow System

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EDEN PRAIRIE, Minn., April 10, 2018 (GLOBE NEWSWIRE) -- A recently published study in the *European Journal of Heart Failure* highlighted a per protocol analysis of the CARRESS-HF study, which demonstrated that ultrafiltration with the Aquadex Flex Flow System by CHF Solutions, Inc. (Nasdaq:CHFS) was associated with a higher cumulative fluid loss ($p=0.003$), higher net fluid loss ($p=0.001$) and greater relative reduction in body weight over time ($p=0.02$), compared to pharmacologic therapy, generally intravenous diuretics.

The published study was a per-protocol analysis from the original CARRESS-HF study that measured clinical effects at baseline, 24 hours, 48 hours, 72 hours, and 96 hours, and adjusted for the substantial dropout or crossover by patients in the study. Additional clinical parameters, which included death, heart failure re-hospitalization, and unscheduled emergency department or clinic visits, were evaluated at 60 days.

The analysis showed ultrafiltration was associated with more efficient decongestion in comparison to aggressive pharmacologic therapy. The analysis also reported serum creatinine, blood urea nitrogen and plasma renin levels were higher in the ultrafiltration group, along with lowered serum sodium. However, the study showed no significant differences at 60 days between the two arms, which calls into question the prognostic relevance of the rise in serum creatinine observed in this study.

"The results of this analysis provide additional understanding of the CARRESS-HF study and continue to support the use of ultrafiltration as an effective therapy for decongesting heart failure patients," commented John Erb, chairman and chief executive officer of CHF Solutions. "We believe these findings support our long-held assertion that fluid management with the Aquadex Flex Flow System provide better results to pharmacologic therapy alone, and that it provides physicians with a proven and much-needed alternative therapy when diuretics are no longer effective in this difficult to treat patient population."

About CHF Solutions

CHF Solutions, Inc. (NASDAQ:CHFS) is a medical device company focused on commercializing the Aquadex FlexFlow system for Aquapheresis® therapy. The Aquadex FlexFlow system is indicated for temporary (up to eight hours) ultrafiltration treatment of patients with fluid overload who have failed diuretic therapy, and extended (longer than 8 hours) ultrafiltration treatment of patients with fluid overload who have failed diuretic therapy and require hospitalization. All treatments must be administered by a healthcare provider, under physician prescription, both of whom having received training in extracorporeal therapies. The company's mission is to predict, measure, and control patient fluid balance through science, collaboration, and innovative medical technology. CHF Solutions is a Delaware corporation headquartered in Minneapolis, Minnesota with wholly owned subsidiaries in Australia and Ireland. The company has been listed on the NASDAQ Capital Market since February 2012.

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