

ASX release

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Study Finds Central Aortic Waveform Improves and Enables Individualisation of Heart Failure Treatment

AtCor Medical (ASX: ACG), the developer and marketer of SphygmoCor® for advanced hypertension management, today announced the publication of the paper by Wohlfahrt et al. “Aortic Waveform Analysis Individualizes Treatment in Heart Failure”¹ in the American Heart Association journal *Circulation: Heart Failure*. The study found that analysis of the central aortic waveform, which is measured by SphygmoCor, could predict which heart failure patients would respond to vasoactive drug therapy.

The study, which was conducted at the Mayo Clinic in Rochester, Minnesota, aimed to determine whether central aortic pressure waveform analysis may guide treatment in patients with heart failure and reduced ejection fraction (when the heart does not contract effectively and less oxygen-rich blood is pumped into the arterial system).

Individuals who benefited from vasoactive drug therapy were identifiable using SphygmoCor. According to the study, these differences were not identifiable using brachial cuff pressures.

The authors stated: “In patients with heart failure and reduced ejected fraction ... afterload reduction is a cornerstone in management. In the clinic, afterload is estimated by brachial cuff blood pressure, but the true hydraulic load ... is more accurately represented by the central aortic pressure waveform, which can be assessed noninvasively using pulse waveform analysis.”

The authors concluded; “Patients with increased pulsatile load that may benefit from aggressive therapy are not identifiable from conventional brachial blood pressure assessments, and changes in aortic pulsatile load on treatment are similarly not evident from cuff pressure assessment....”

AtCor Medical Chief Executive Officer, Duncan Ross said: “These study results are important. Heart failure is an increasingly common, costly and debilitating condition with the total cost to the US economy estimated at US\$32 billion per annum. SphygmoCor was able to clearly identify the patients that would positively respond to more aggressive drug therapy while brachial cuff blood pressure could not.”

“As the authors state, individualised or precision medicine has enabled major advances in delivering the right intervention to the right patient to improve outcomes; however, this has yet to be applied to most cardiovascular diseases, including heart failure. The findings again demonstrate that using SphygmoCor’s measurements to manage patient outcomes leads to improved therapeutic outcomes.”

¹ Wohlfahrt et al, Aortic Waveform Analysis Individualizes Treatment in Heart Failure, *Circulation: Heart Failure*. 2017;10:e003516

The current publication is a follow-on to a previously published randomized controlled trial (Borlaug et al. A pilot study of aortic waveform guided therapy in chronic heart failure. *J Am Heart Assoc.* 2014;3:e000745.). The earlier study found that patients who received drug therapy for heart failure, which was guided by central aortic waveform parameters using SphygmoCor, were able to be treated more effectively with current standard medications, compared to traditional methods using brachial cuff blood pressure. Using the central aortic waveform parameters to guide therapy resulted in a clinically significant improvement in exercise capacity, on par with the results of alternative heart failure treatments such as cardiac resynchronization therapy (implanting a pacemaker).

About AtCor Medical

AtCor Medical develops and markets products for the early detection of target organ damage and management of cardiovascular and renal disease. Its technology allows researchers and clinicians to noninvasively measure the central arterial pressure waveform, central aortic pressures and pulse wave velocity. Central arterial pressure waveform analysis, as measured by the company's SphygmoCor system, provides clinicians with better prognostic and diagnostic information to determine the need for and type of interventions, effects which cannot be detected with standard brachial blood pressure measurements. SphygmoCor is essential for hypertension management.

More than 4,000 SphygmoCor® systems are currently in use worldwide at major medical institutions, research institutions and in various clinical trials with leading pharmaceutical companies. The company's technology has been featured in over 1,000 peer-reviewed studies published in leading medical journals and thousands of citations. AtCor Medical has operations in Australia, the United States, and Europe. For further information, please visit our web site at www.atcormedical.com.

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