Cardiologists can quickly detect coronary artery disease using a non-invasive simple, short respiratory stress test

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Newly published data confirm a non-invasive Respiratory Stress Response (RSR) can quickly and accurately measure the presence of significant coronary artery disease (sCAD), the leading cause of cardiovascular death worldwide. Patients in the study with sCAD had a lower RSR compared to patients without. These data, published in the current issue of The *American Journal of the Medical Sciences*, demonstrate that RSR was significantly lower in patients with sCAD compared to those with non-significant CAD (P

Researchers at Barzilai Medical Center used the innovative RSR developed by SPIROCORTM Ltd. The test uses a Pulse Oximeter (PPG) to measure a patient's blood flow in the finger in response to his or her paced breathing for 70 seconds. PPG data captured in the study are recorded immediately and analyzed using a proprietary algorithm that determines the RSR in a percent value. The findings of this study were further validated in research recently published in Euro Intervention Journal and Cardiovascular Revascularization Medicine.

"Currently available noninvasive tests for the detection of CAD are expensive, time consuming, involve exposure to ionized radiation in some tests, and require highly trained personnel," said Professor Amos Katz, Director, Department of Cardiology, Barzilai Medical Center, Ashkelon, Israel, and Faculty of Health Sciences, Ben-Gurion University, Israel. "This study shows that the SPIROCOR test is a

simple, non-invasive and less time-consuming test that independently predicts significant coronary artery disease in patients referred for a coronary artery evaluation."

The test is not yet cleared for use in the US. The safety and efficacy of the test compared to stress electrocardiography in detecting S-CAD is the subject of the pivotal 1,000-patient SCORE (Spirocor Coronary Outcome by Respiratory stress Examination) study that is currently ongoing.

Study Methodology and Findings

In this study, the RSR test was performed on a total of 193 consecutive patients (stage I: 98 and stage II: 05) referred for coronary angiography to exclude sCAD. Coronary angiography was performed on all subjects and analyzed by cardiologists who were blinded to the RSR results.

The mean patient age was 63.2, and the majority of patients were men (70%). There were no significant differences between patients with sCAD and those with non-sCAD with respect to risk factors. Patients with sCAD had more incidences of recent MI, while patients without sCAD had not had recent MI. No side effects were reported during the study.

Additional multicenter, community-based studies under varying clinical settings and patient populations are warranted to rigorously assess the value of this test for the detection of S-CAD.

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