

Evaluation of a Novel Noninvasive Blood Pressure Monitor to Screen for Coronary Artery Disease and Arrhythmia

Cardiovascular Health: Coming Together for the 21st Century
1998 National Conference - Poster presentation P. 45T

Donald Rediker¹, James R. Greenwood², Hideaki Shimazu³
Mission Internal Medical Group (Mission Viejo, CA), University of California, Los Angeles
(Los Angeles, CA), Kyorin University Department of Health Sciences (Japan)

The CardioVision MS-2000 is a portable blood pressure monitoring device, which, by using standard oscillometric methods analyzed by proprietary software, yields five characteristic pulsatile signal patterns. These patterns correspond to varying heart rate regularity as well as vascular elasticity. We studied 85 patients in a single cardiology practice to determine the diagnostic value of this instrument in determining the presence of coronary artery disease (CAD). Patients with arrhythmia were identified by EKG or Holter monitoring. The diagnosis of CAD was made by coronary arteriography. Patients without CAD had either negative coronary arteriography or were under 40 years old with no risk factors and had negative noninvasive studies. Arrhythmia detection by the MS-2000 was 87.5% (15/17) sensitive and 100% specific. The presence of a reduced vascular elasticity pattern, whether alone or, as part of a mixed pattern was 70% sensitive and 78% specific for CAD. The finding of a reduced elasticity pattern as the sole pattern was 92% sensitive and 95% specific for CAD. Because recently published work has demonstrated that the presence of brachial artery arteriosclerosis correlates with the presence of CAD, we feel that the MS-2000 is a valuable tool in the noninvasive diagnosis of CAD. In addition, we feel that the MS-2000 could also be successfully used as an adjunct in a program of arteriosclerosis prevention and treatment.