

## **RELIABLE MYOCARDIA CONTRAST ECHOCARDIOGRAPHY BY USIG VALUES OF INTENSITY DIFFERENCE**

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**Background:** Attaining more reliable myocardial contrast echocardiography (MCE), we tried MCE using values of intensity difference of base-line and post-injection of a contrast agent Sonazoid. This never collapsed by low acoustic pressure. So the contrast effect is produced by the harmonic signal from microbubble resonance by ultrasonic beams.

**Method:** A contrast agent of 2.5 ml was injected over 10 seconds. Harmonic ultrasonography was performed with mechanical index (MI): 0.22 for the short axis (SAX) view, 0.4-0.6 for the apex (AP) views, frames/second: 21.2 and frequency: 1.5/3.0 MHz. The results were evaluated by time intensity curve. The intensity differences at the same points between base-line and post-injection were measured. In this study 24 patients who underwent coronary angiography were enrolled. SAX views of 34 segments (seg.) with over 75% stenosis (grS), and 53 seg. with normal coronary arteries (grN) were examined. Both groups were divided into base-line and post-injection (grSbase, grNbase and grSpost, grNpost) groups.

**Results:** In grS, intensity differences between grSbase and grSpost was  $0.8 \pm 3.1$  dB, and in grN  $11.9 \pm 3.8$  dB ( $p < 0.001$ ). Over 75% stenotic area could be detected in SAX view by an intensity difference below 4.9 dB with sensitivity: 0.96, specificity: 1.0, and diagnostic accuracy: 0.98. In AP views over 75% stenotic area was detected with sensitivity: 1.0, specificity: 0.96, accuracy: 0.98 by an intensity difference below 6.1 dB.

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**Conclusion:** MCE using values of intensity difference excelled in accuracy to detect ischemic area.