

## Diagnostic value of coronary artery assessment by transthoracic ecocardiography

Kamenskikh M.; Zagatina A.; Zhuravskaya N.; Shmatov D.

Saint-Petersburg state university, Saint Petersburg, Russian Federation

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Several recent studies have reported the opportunity for diagnosing significant narrowing of the coronary arteries during echocardiography using the local flow acceleration in the stenosis. However, there is a discrepancy between the cut-off coronary flow velocity (CFV) values in the literature.

The aim of our study was to define the cut-off value of CFV for coronary artery stenosis more than 50%.

**Methods:** In a single-center study, we evaluated 100 patients (53 men,  $62 \pm 11$  y.o.) who underwent echocardiography with scans for CFV in 3 segments of left coronary artery. Coronary angiography was performed by an independent expert specialist, blind other data.

**Results:** Two hundred and fifty-three segments (84%) of proximal left coronary were feasible for assessment. There was a significant correlation between coronary flow velocity and percent of stenosis in the corresponding segments,  $R = 0.52$ ;  $p < 0.0000001$ , (figure). The cut-off value of 67 cm/s had sensitivity 69%, specificity 89%, accuracy 79%,  $p < 0.0004$  for left main narrowing more than 50% by angiography. The cut-off value of 70 cm/s in proximal segment of left anterior descending had sensitivity 62%, specificity 88%, accuracy 82%,  $p < 0.0001$ , the cut-off value of 50 cm/s in proximal segment of left circumflex had sensitivity 73%, specificity 88%, accuracy 81%,  $p < 0.003$  for stenoses of more than 50%.

**Conclusion:** There is a significant positive correlation between coronary flow velocity by echocardiography and degree of narrowing by angiography.