

Use of Non-invasive Cardiac Testing in Patients with Stable Angina who had Cardiac Catheterization

Practice Points

1. Revascularization in patients with critical coronary artery disease (CAD) and stable angina offers quality of life benefits, but does not provide mortality benefit.
2. Non-invasive coronary artery (CA) testing is helpful in identifying patients at high risk of having critical disease.
3. The rate of diagnosis of critical disease in patients undergoing cardiac catheterization should be >80%.

Methods

In the APPROACH database all patients from 1 Jan 2015 -15 Nov 2017 who had cardiac catheterization for stable angina were defined by whether or not they had non-invasive testing, exercise stress testing, or other advanced non-invasive tests (exercise/persantine myoview, thallium perfusion imaging, CT Coronary Angiography, or stress echo).

Critical CAD was defined as at least one > 50% stenosis.

No Stress Test or Advanced Non-invasive Testing Undertaken by Region

	# Stable angina	# no test	% no test
Province	3773	989	26
Eastern	2309	613	27
Central	932	206	22
Western	381	105	28
Northern	201	65	32

26% of patients with stable angina underwent cardiac catheterization without prior stress or advanced non-invasive cardiac testing

Percentage of Critical CAD by Non-invasive Testing in NL

	# who had test(s)	% who had test(s)	% critical CAD
Exercise Stress	2065	55	67
Advanced Non-invasive	719	19	74
Exercise Stress or Advanced Tests	2784	74	69
Both Exercise Stress and Advanced Tests	141	4	71
No Test	3773	26	72

In NL, the diagnostic precision of non-invasive testing is disappointing, and will be investigated.

Conclusions

1. In stable angina the rate of diagnosis of critical CAD was not optimal.
2. Under use of non-invasive CA testing was observed.
3. Use of advanced non-invasive testing should provide improved diagnostic precision for critical CAD over exercise stress testing alone, and should result in fewer unnecessary cardiac catheterizations. However, the diagnostic precision observed in NL was poor.
4. Patients at high risk for critical CAD determined by a non-invasive test could be referred for cardiac catheterization provided revascularization is considered to be an option.