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## Noninvasive tests for CAD unsuitable in renal failure patients

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Coronary artery disease, diagnosis, mass screening, sensitivity, specificity

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## Context

It was thought that many common tests for coronary artery disease (CAD) are considered to be of little use in patients with end-stage renal disease. This paper tested the accuracy of some common tests.

## Significant findings

Angina pectoris was the clinical symptom that most accurately predicted the presence of CAD, with a sensitivity of 65% and a specificity of 66%. The corresponding positive and negative likelihood ratios were 1.9 and 0.5. Neither resting ECG, which had a sensitivity of 67% and a specificity of 52%, nor dipyridamole thallium-201 scintigraphy, which had a 1.3 positive likelihood ratio and a 0.5 negative likelihood ratio, were useful in diagnosing CAD. The sensitivity of exercise testing was also low, since most patients were not physically able to complete the test.

## Comments

Gert Mayer, a co-author, concluded that investigative methods that are of value in the general population do not help a lot in patients with end-stage renal disease. Widespread left ventricular hypertrophy in renal transplant recipients and dialysis patients makes radionucleotide imaging unreliable as well as the methods studied. He suggests that an aggressive approach using angiography needs to be taken to be sure about disease severity.

# Methods

Various tests for CAD were evaluated, including clinical symptoms, electrocardiography (ECG), angiography, dipyridamole thallium-201 scintigraphy, and exercise testing. In total, 84 patients were studied; 42 were on hemodialysis and 42 were renal transplant patients. Angiography results that 43 (51%) had significant CAD.

# Additional information

## References

1. Schmidt A, Stefenelli T, Schuster E, Mayer G: Informational contribution of noninvasive screening tests for coronary artery disease in patients on chronic renal replacement therapy. *Am J Kidney Dis* . 2001, 37: 56-63.