TITLE: Positron Emission Tomography Compared to Single Photon Emission Computed Tomography for Cardiac Viability: Diagnostic Accuracy, Clinical Management, and Guidelines

DATE: 18 June 2009

RESEARCH QUESTIONS:

1. What are the guidelines for referring cardiac patients to positron emission tomography compared to single photon emission computed tomography?

2. What is the diagnostic accuracy of positron emission tomography compared to single photon emission computed tomography?

3. Is clinical management or patient outcome affected by using positron emission tomography or single photon emission computed tomography?

METHODS:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 2, 2009), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI, EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between 2004 and June 2009. Filters were applied to limit the retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials (for focused results only), and guidelines. Internet links were provided, where available.

RESULTS:

HTIS reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials and evidence-based guidelines.

One health technology assessment and three systematic reviews were identified regarding the diagnostic accuracy, and clinical management or patient outcomes resulting from the use of single

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photon emission computed tomography or positron emission tomography. Five evidence-based guidelines were identified for referral of cardiac patients to single photon emission computed tomography compared to positron emission tomography. No relevant randomized controlled trials were identified. Additional articles of interest may be found in the appendix.

Health technology assessments


   **Recommendation**
   

Systematic reviews and meta-analyses


Randomized controlled trials

No literature identified

Guidelines and recommendations


6. Hendel RC, Berman DS, Di Carli MF, Heidenreich PA, Henkin RE, Pellikka PA, et al. ACCF/ASNC/ACR/AHA/ASE/SCCT/SCMR/SNM 2009 appropriate use criteria for cardiac radionuclide imaging: a report of the American College of Cardiology Foundation Appropriate Use Criteria Task Force, the American Society of Nuclear Cardiology, the American College of Radiology, the American Heart Association, the American Society of Echocardiography, the Society of Cardiovascular Computed Tomography, the Society for


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APPENDIX – FURTHER INFORMATION:

Observational studies


