

Informative value of clinical research on multislice computed tomography in the diagnosis of coronary artery disease: A systematic review.

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Multislice Spiral Computed Tomography (MSCT) is an emerging non-invasive diagnostic modality to detect coronary artery disease, which may alter diagnostic pathways and change the current clinical role of conventional coronary angiography. AIMS: To retrieve and critically assess information from the available literature on MSCT (≥ 16 -slice) concerning its diagnostic accuracy, safety, applicability, clinical impact and cost-effectiveness.

METHODS AND RESULTS: Articles published between January 2002 and March 2007 were identified through searches of the Cochrane Library, MEDLINE, and other websites of manufacturers, cardiac professional societies, guidelines and abstracts from conference meetings. We identified 1768 potentially relevant articles: 262 out of these were considered eligible for full evaluation and 150 were selected (57 assessed diagnostic accuracy, 130 applicability, 103 safety, 1 clinical impact and none cost-effectiveness). The pre test probability of coronary artery disease was 56.7% (95% Confidence Interval: 55.1%-58.3%). A positive MSCT finding (pooled LR+: 5.4 (4.4-6.7)) increased the probability of CAD to 87.7% (84.3%-90.3%), whereas a negative MSCT result (pooled LR-: 0.09 (0.07-0.12)) reduced the probability of CAD to 10.7% (7.9%-14.4%).

CONCLUSIONS: MSCT is a promising technology for the assessment of coronary artery stenosis. However, the available literature is of limited value in providing guidance to support the development of policies for its appropriate utilization in clinical practice.