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## Heart

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### 4.19 40 Slices MDCT Non-Invasive Diagnostic Approach to Coronary Artery Disease

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**Introduction:** Multidetector Computed Tomography Coronary Angiography (MDCT-CA) is a non invasive technique which clearly shows coronary anatomy and correctly identifies plaque location and morphology. In this study we assessed diagnostic accuracy of MDCT-CA to detect significant stenoses in patients with clinically relevant coronary tree disease.

**Methods:** 50 patients (39 male; mean age, 60.9±9.2 years) with atypical chest pain, stable or unstable angina pectoris, or non-ST-segment elevation myocardial infarction planned for diagnostic conventional coronary angiography underwent within three days before to MDCT-CA (Brilliance 40, Philips, Ohio). Inclusion criteria were sinus rhythm, heart rate < 100 mg/dl, pregnancy, respiratory insufficiency, unstable clinical conditions, and severe heart failure.  $\beta$ -blockers were administered if heart rate was >70 bpm. To synchronise the arrival of the contrast bolus (Iomeron 400, Bracco, Italia) in the coronary arteries with the start of the scan we used bolus-tracking technique. Diagnostic accuracy was evaluated per-segment, per-vessel, and per-patient.

**Results:** Mean heart rate registered during the scan was of 61.9±6.2 bpm. 618 segments have been evaluated. The assessment was impaired by respirator artefacts only in 1 patient (2%). MDCT-CA has shown good sensitivity, specificity, and positive and negative predictive values to detect significant coronary artery stenoses (respectively: 94%, 94%, 91%, and 96%, per-segment; 91%, 97%, 95%, and 92%, per-vessel; 100%, 100%, 100%, and 100%, per-patient).

**Conclusions:** 40 slices MDCT-CA showed a good diagnostic capability to detect coronary artery significant stenoses in patients referred to our Institution for suspected or known significant coronary artery disease.