



# Coronary stent evaluation with computed tomography coronary angiography

C-0322 Coronary stent evaluation with computed tomography coronary angiography: comparison between Iomeprol-400 and Iodixanol-320

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## Purpose

Multi-detector computed tomography coronary angiography (MDCT-CA) is becoming an increasingly widespread tool for the non-invasive evaluation of coronary arteries, stents and bypass grafts (1). Although good diagnostic accuracy has been demonstrated for native coronary arteries and bypass grafts, beam-hardening artifacts resulting from metallic struts may preclude accurate quantification of neointimal hyperplasia and coronary stent narrowing. Although single-center studies with 64-slice...

## Methods and Materials

Three-hundred consecutive patients with previous coronary stent implantation who were scheduled for non-invasive coronary imaging follow-up with MDCT-CA between July 2011 and June 2012 were considered for inclusion in this study. A total of 22 patients were excluded due to breath-holding inability (6 patients), impaired renal function (10 patients) and cardiac arrhythmias (6 patients). Therefore, 278 patients were divided into 3 groups using a computer-generated randomised...

## Results

The three groups were homogeneous in terms of gender, age, BMI, prevalence of cardiovascular risk



factors and serum creatinine. No significant differences were also found in intravenous or oral b-blockade pre-treatment and stent characteristics. At least one stent with significant ISR at MDCT-CA was found in 36 patients of group 1, in 31 patients of group 2 and in 35 patients of group 3. The HR before imaging was similar in the 3 groups. On the contrary, the HR after imaging was significantly...

#### Conclusion

The main finding of the study is that Iodixanol-320 provided better image quality allowing higher evaluability of coronary stents in comparison to Iomeprol-400 when the two CM were injected at the same flow rate. This was the result of a significant reduction of the beam-hardening effect, which often leads to artifacts that may preclude accurate assessment of coronary stent lumen. Moreover, Iodixanol-320 decreased heat sensation, reduced PHB number and minimized the effect of CM injection on...

#### References

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