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Heart

4.18 Utility of Multi-Slice Computed Tomography Coronary Angiography to Evaluate Coronary Artery Bypass Graft Patency

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Introduction: Coronary angiography is actually the gold standard to visualise coronary artery bypass graft patency and to detect bypass stenoses. However, it is an invasive examination that use X ray emission and it may give dangerous effects even if the dose is low. Therefore, it is still needed a non-invasive examination with good diagnostic accuracy for the follow-up of patients with coronary artery bypass grafts. Aim of this study is to evaluate the diagnostic accuracy of a 40 detector row computed tomography scanner for the assessment of bypass versus coronary angiography.

Methods: Twenty-seven consecutive patients (20 male, 6 female, mean age 65) and a total number of 68 coronary bypass grafts (25 arterial and 43 venous grafts, 111 anastomoses) were examined by 40-row multi-slice computed tomography.

Results: It was possible to analyse coronary artery bypass grafts patency for every patient. In coronary angiography 23 patients showed stenoses or occlusion of bypass. 19 of them were correctly diagnosed by computed tomography (sensibility 84%, specificity 100%). In particular computed tomography showed a sensibility of 90% and a specificity of 100% for coronary artery bypass graft, instead, with regard to anastomoses it showed a sensibility of 88% and a specificity of 94%.

Conclusions: According to the results of our study, we think that computed tomography is an efficient tool to evaluate coronary artery bypass graft patency. This examination could be included in to the diagnostic pathway of the yearly follow-up of the asymptomatic patient underwent to coronary artery bypass graft.