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World Congress on CARDIOLOGY & HEART CONGRESS AND SURGERY

May 28, 2021 | Webinar

Renal artery stenosis predicts coronary Artery disease in patients with hypertension

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In hypertensive patients with indication of renal arteriography to investigate renal artery stenosis (RAS) there are no recommendations regarding when to investigate coronary artery disease (CAD). Moreover, the predictors of CAD in patients with RAS are not clear. We aimed to evaluate the frequency and the determinants of CAD in hypertensive patients referred to renal angiography. Eighty-two consecutive patients with high clinical risk suggesting the presence of RAS systematically underwent renal angiography and coronary angiography during the same procedure. Significant arterial stenosis was defined by an obstruction ≥ 70% to both renal and coronary territories. Significant CAD was present in 32/82 (39%) and significant RAS in 32/82 (39%) patients. Both CAD and RAS were present in 25.6% from the 82 patients. Patients with severe CAD were older (63 ± 12 vs. 56 ± 13 years; p = 0.03) and had more angina (41 vs. 16%; p = 0.013) compared to patients without severe CAD. Significant RAS was associated with an increased frequency of severe CAD compared to patients without significant RAS (66% vs. 22%, respectively; p<0.001). Myocardial scintigraphy showed ischemia in 21.8% of the patients with CAD. Binary logistic regression analysis showed that RAS ≥ 70% was independently associated with CAD ≥ 70% (OR: 11.48; 95% CI 3.2-40.2; p<0.001), even in patients without angina (OR: 13.48; 95%CI 2.6-12.1; p<0.001). Even considering a small number of patients with significant RAS, we conclude that in hypertensive patients referred to renal angiography, RAS ≥ 70% may be a strong predictor of severe CAD, independently of angina, and dual investigation should be considered.

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