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**Original article:**

**Relationship between coronary artery lesions distribution and renal artery stenosis in patients undergoing simultaneous coronary and renal angiography**

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**ABSTRACT:**

**Background:** Atherosclerosis is by far the most common etiology of renal artery stenosis(RAS) in the elderly. RAS and coronary artery disease (CAD) originate from similar multiple risk factors for the development of atherosclerosis so that not surprisingly patients with RAS more commonly have CAD and vice versa.We aimed to find out if any association between distribution of coronary artery lesions and RAS exists. In parallel, we would evaluate the relationship between atherosclerotic risk factors and renal function, and RAS.

**Material and Methods:** From January 2013 to November 2013, data was collected and analyzed prospectively of 152 consecutive patients who underwent simultaneous renal angiography following coronary angiography in SMS hospital, Jaipur.

**Results**: Out of 152 patients, significant RAS was present in 14 patients (9.21%). It was unilateral in 13 patients (8.55%) and bilateral in 1 patient (0.6%).In 11 (7.23%) patients with unilateral disease, RAS was detected on left renal artery and in 2 patients (1.2%) right renal artery was involved. In 106(69.73%) patients, significant CAD was present. Significant RAS was more common in significant CAD group than with normal coronaries or insignificant CAD group but was statistically insignificant (78.57% vs 68.84%, p value=0.653). Significant RAS was more common in patients with three vessel CAD compared to those with single or two vessel CAD but was statistically insignificant. Relationships between involved locations of coronary arteries and RAS were also insignificant. Patients with significant RAS were older compared to those without significant disease (64.64 +\_5.93years vs 56.8+\_11.06years, p value=0.01).After log regression analysis, only increased pulse pressure and low eGFR was found to be significantly associated with significant RAS.

**Conclusion:** There is no significant association seen between distribution of coronary artery lesions and RAS. However, increased pulse pressure and reduced eGFR were found to be significantly associated with RAS.

**Keywords:** Atherosclerosis,renal artery stenosis, coronary artery disease