EP3_73

Renal Artery Denervation in Patients with Chronic Renal Failure with Resistent Systemic Hypertension

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Background:

Sympathetic nervous system (SNS) activation is involved in the development and progression of systemic hypertension.

Bilateral renal artery denervation showed significant decrease of the systolic and diastolic blood pressure in patient with resistant hypertension and normal kidney function.

Hypothesis:

Bilateral renal artery denervation can reduce significantly blood pressure in patients with chronic renal failure similar to patients with normal kidney function who are resistant to at least three antihypertensive medications.

Methods:

Twenty two patients ,nine of them have chronic renal failure , two of these patient are on chronic hemodialysis ,one patient with renal artery stenosis that was treated with renal artery stenting and one patient with perepheral artery stenosis , with resistant hypertension to at least three antihypertensive drugs, were treated with renal artery denervation.

Blood pressure, pulse ,blood tests for renal function ,and electrolytes were measured at baseline and in the follow up.

Results:

The mean systolic blood pressure of the whole group at baseline was 179±19 mmhg ,mean diastolic blood pressure 83±17 mmhg. The mean systolic blood pressure on average three months after renal artery denervation was 142±16 mmhg ,mean diastolic blood pressure 77±11 mmhg.

By using paired t test with 95% confidence interval of the difference there was significant reduction of the systolic blood pressure in the whole group by an average of 36 mmhg with P value of 0.0001 ,and significant reduction in the diastolic blood pressure by an average of 6 mmhg with p value of 0.038.

In the subgroup analysis of patients with chronic renal failure the mean systolic blood pressure at baseline was 183±20 mmhg and dropped to 146±17 mmhg on average three months after the renal denervation.The diastolic blood pressure dropped from 79±12 before treatment to 75±10 mmhg after the denervation.

Chronic renal failure patients had significant reduction in the systolic blood pressure with p value of 0.005 but non significant reduction in the diastolic blood pressure.

Renal denervation had no adverse affect on the renal function during the follow up.

Conclusion:

Bilateral renal arteries denervation is associated with significant reduction in systolic blood pressure in patients with chronic renal failure without any short term kidney injury.