

A 10-year review of renal artery stenting in 55 studies

Dr Seema Jham¹, Dr Hugh Rayner¹, Professor Indranil Dasgupta¹

¹University Hospitals Birmingham NHS Foundation Trust, Birmingham, United Kingdom

We performed a review on all renal artery stenting performed at the Birmingham Heartlands Hospital over 10 years from 2008 to 2018. Information on 55 individual cases were collected from our computer data system.

Patient Demographics

Data was collected on 53 patients who had 55 renal artery interventions. Their demographics are displayed in Table 1.

Results

The main reason for intervention in these group of patients was resistant or difficult to control hypertension (44%). Other reasons for referral were part of an endovascular repair (33%), flash pulmonary oedema (11%), CKD with heart failure (7%) and CKD with a single kidney (5%). 46% of patient had a CT angiogram to confirm the diagnosis or renal artery stenosis, 18% had a MR angiogram and 36% had a fluoroscopic angiogram.

All patients were on a number of antihypertensive agents pre and post procedure. There was no significant difference in the number of agents pre-procedure (median= 3, n=55) versus 6 months post procedure (median=2, n=55) and pre procedure Versus 12 months post procedure (median=2, n=55). This remained consistent for the group of patients whose indication was resistant hypertension (Table 2).

There was a significant drop in systolic BP (>10mmHg) pre-procedure (medium 163.5mmHg, n=55) and post procedure (median= 150mmHg, n=55) in all patients (p=0.02). This remained consistent when the 44 patients who required the procedure for resistant hypertension were analysed. In this subgroup of patient, the drop in SBP was higher (>15mmHg).

There was no significant change in eGFR pre-procedure (median 52.6 ml/min, n=55) and post procedure (median=55.5ml/min, n=55) in all groups. Out of the 7 patients who had the procedure for recurrent admissions with flash pulmonary oedema, 3 patients (42.8%) continued to have such episodes. Overall, the procedure was relatively safe with very few non-fatal complications (5.4% of procedures).

Conclusion

In Summary, we analysed 55 renal artery stenting procedures over a 10-year period at the Birmingham Heartlands Hospital. This was a relatively safe procedure which significantly contributed to a drop in systolic blood pressure but no change in the number of antihypertensive medications taken pre and post procedure. The majority of patients had no change in eGFR with the procedure.