STUDY OF FEASIBILITY OF RENAL SYMPATHETIC DENERVATION WITH IRRIGATED CATHETER IN THE TREATMENT OF RESISTANT HYPERTENSION: REPORT OF A INITIAL EXPERIENCE
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Introduction: Despite significant advances in the treatment of hypertension, a significant proportion of patients has resistant hypertension, defined as systolic blood pressure ≥ 160 mmHg (≥ 150mmHg in diabetic patients) in the use of at least three antihypertensive one being a diuretic. Renal sympathetic denervation is emerging as a promising therapy for resistant hypertension. The Simplicity 2 was a randomized clinical trial that compared renal denervation using a device specially developed for the procedure versus standard therapy in patients with resistant hypertension and showed a reduction of 32 mmHg in systolic and 12 mmHg in diastolic blood pressure at 6 months. The aim of this study is to demonstrate the feasibility of renal sympathetic denervation with an irrigated catheter.

Methods: Prospective experimental study. Patients with resistant hypertension followed at the outpatient hypertension clinic of the Hospital de Clínicas de Porto Alegre. Patients with secondary hypertension were excluded. Patients undergo ABPM before the procedure and 6 months after. The procedure was performed with irrigated electrophysiology catheter (Contis). Follow-up with measurement of blood pressure, serum creatinine and electrolytes was performed monthly until the sixth month after the procedure.

Results: 6 patients underwent the procedure (5 women and 1 man). The procedure did not present technical difficulties and lasted less than 90 minutes in all cases. Mean age was 54 years and mean body mass index of 29kg/m2. Patients were taking an average of 6.5 antihypertensive drugs at study entry. ABPM pre-procedure demonstrated mean systolic blood pressure of 154mmHg and diastolic blood pressure of 90mmHg. ABPM post-procedure was performed in 3 patients and demonstrated mean systolic blood pressure of 159mmHg and mean diastolic blood pressure of 88mmHg. There was no significant change in the number of antihypertensive drugs, renal function or electrolytes. There was a complication associated with the procedure (occlusion of a sub-branch of the left renal artery, which was corrected with stenting), without any repercussion on renal function.

Conclusion: The procedure proved to be technically feasible and without deleterious effects on renal function. With the completion of the planned series, it shall initiate the randomized clinical trial.