

中文題目：個案報告-使用二氧化碳血管造影導引腎動脈交感神經阻斷術於末期腎臟疾病之頑固型高血壓患者

英文題目：The carbon-dioxide angiography-guide renal sympathetic denervation therapy used in patients who suffered from resistant hypertension and end stage renal disease- a case report.

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Introduction

Hypertension is a serious medical condition that significantly increases the risks of heart, brain, kidney and other diseases. Especially, the risk for coronary heart disease increases progressively with incrementally increases in blood pressure above 115/75 mmHg, and even doubling the cardiovascular death risk per 20/10 mmHg blood pressure elevation. Renal sympathetic denervation (RDN) is an effective therapy for resistant hypertension. However, in patient with end stage renal disease (ESRD), renal sympathetic denervation therapy might be an alternative choice but is limited by the contrast medium usage. Carbon dioxide (CO₂) angiography might reduce the contrast medium usage and could be used in the setting of ESRD patient who needs RDN.

Case presentation

Here we present a case of a 71-year-old male with hyperlipidemia, type 2 diabetes mellitus, chronic kidney disease stage V, gouty and coronary artery disease (1 vessel disease) post percutaneous coronary intervention 5 years ago. He also suffered from resistant hypertension presented with home systolic pressure around 160-180 mmHg even under 4 kinds of anti-hypertension agents control. The anti-hypertension agents used included furosemide, carvedilol, olmesartan/amlodipine and nifedipine OROS. For the management of resistant hypertension, he visited our Cardiology outpatient department for help. Secondary hypertension was surveyed without positive finding except for the severe renal function impairment (eGFR:13.72 /Serum Creatinine:4.28 mg/dL). Due to the ESRD status, we offered him the option with CO₂ angiography guided RDN. After the inform consent signed, RDN was successfully performed under the CO₂ angiography guidance with 10 ml low-osmolarity conventional contrast medium used only. The ambulatory blood pressure monitoring revealed the blood pressure decreasing from 142/72 to 128/65 mmHg (before and 1 month after RDN, respectively). Significant blood pressure lowering without complication including femoral/renal vascular complication and renal function deterioration was found after RDN.

Discussion

For ESRD patients who suffered from resistant hypertension, the CO₂ angiography guided RDN might be an effective, safe and alternative choice of anti-hypertension therapy.