AN UNUSUAL CAUSE OF MALIGNANT HYPERTENSION

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Malignant hypertension can be associated with a secondary cause of hypertension. We report a patient with malignant hypertension due to an unusual cause.

A 54-year-old Caucasian female with asthma and gastroesophageal reflux disease presented with impaired mental status, seizures and respiratory failure requiring intubation and mechanical ventilation. She had systolic BP of 220-240 mm Hg on admission. Her physical exam was only significant for tachycardia with S4. Her labs were remarkable for potassium 3.1mmol/L, creatinine 1.9mg/dl and glucose 149mg/dl. Her previous creatinine had been less than 0.9mg/dl. She was started on intravenous nitroprusside drip. Head CT was negative. ECG showed LVH. Plasma Renin (44.65ng/ml/hr) and Aldosterone (131.3ng/dl) were markedly elevated). CT abdomen with IV contrast ruled out adrenal pathology, but showed complete occlusion of left renal artery. She underwent catheter directed thrombolysis followed by left renal artery angioplasty with stent placement. Echo studies were negative for thromboembolism. Coagulation studies showed a heterozygous mutation of MTHFR gene, homocysteine level of 7.7μmol/L and borderline positive lupus anticoagulant. She was discharged on anticoagulation with blood pressure controlled on oral medicines and recovered renal function.

Acute complete renal artery occlusion (ARAO) is rare. It causes renin release, hypertension and renal dysfunction. ARAO commonly occurs due to embolism from heart, following angioplasty or spontaneously. Coagulopathy causing ARAO has not been reported. The heterozygous MTHFR mutation occurs in 42% of Caucasians and is associated with near normal levels of homocysteine; therefore it is not a risk factor for vascular disease. Perhaps dehydration from recent emesis coupled with coagulopathy led to the ARAO in our patient. When no obvious cause of ARAO is present, a hypercoagulable work up including genetic abnormalities should be performed. Expeditious clot thrombolysis followed by PTRA and stent placement can improve renal failure and hypertension, but should be considered in delayed cases, since it may still be able to salvage the renal function like in our patient.