Hypertensive crisis leading to multisystem complications: a case report

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Background: Hypertensive crisis is characterized by a severe elevation in blood pressure associated with end-organ dysfunction. This case highlights a 65-year-old male presenting with ophthalmologic, neurological, and cardiovascular manifestations of malignant hypertension.

Case Presentation: A 65-year-old male with a past medical history of type 2 diabetes mellitus with retinopathy, hypertension, hypercholesterolemia, prior superior dentate nucleus infarction, and asymptomatic right carotid stenosis attended the eye casualty due to double vision. Examination revealed disc swelling, splinter hemorrhages, and bilateral microvascular cranial nerve VI palsy indicative of grade 4 hypertensive retinopathy. His blood pressure was critically elevated (BP 203/77, later peaking at 232/95). Investigations included CT head (no acute findings), HbA1c 118, normal creatinine and eGFR, and a borderline blood glucose level. During admission, he developed vomiting and bowel obstruction-like symptoms (later attributed to fluid overload). Neurological review and MRI confirmed microvascular cranial nerve damage secondary to hypertension and diabetes. Shortly thereafter, the patient deteriorated with acute pulmonary edema due to hypertensive crisis (NEWS 9: RR 27, SpO_2 90% on high-flow oxygen, BP 212/98, HR 106). He was treated with IV furosemide and antibiotics for possible HAP. Echocardiography revealed a dilated right ventricle but preserved left ventricular ejection fraction. BNP levels were significantly elevated.

Management and Outcome: The patient was stabilized with antihypertensive therapy (Doxazosin, Amlodipine, Candesartan, Indapamide), high-dose statins, and diuretics. After appropriate treatment, he recovered well and was discharged with outpatient follow-ups for renal artery stenosis evaluation and ophthalmologic review.

Discussion and Conclusion: This case underscores the potential complications of poorly controlled hypertension and diabetes. Malignant hypertension may present with multi-system involvement. Failure to adhere to medication regimens may significantly worsen patient outcomes, as seen in this case with retinopathy and acute pulmonary edema. This case highlights the importance of monitoring blood pressure control and adherence to treatment to prevent life-threatening complications.

Keywords: Hypertensive crisis, multisystem complications, malignant hypertension, hypertensive retinopathy, cranial nerve palsy, pulmonary edema, renal artery stenosis, diabetes mellitus, hypertension management, antihypertensive therapy.