

Responding to a hypertensive crisis

Nonadherence puts the patient at risk for stroke and organ damage.

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CLIFTON JONES, an African-American male aged 59, comes to the emergency department (ED) complaining of headache and blurred vision. After the triage nurse measures his blood pressure (BP) at 190/125 mm Hg in the right arm and 188/125 mm Hg in the left arm, she immediately escorts him to an examination room for assessment.

History and assessment hints

The ED nurse obtains a health history from Mr. Jones. He states he was diagnosed with hypertension 10 years ago and takes metoprolol 25 mg/day to treat it. But he admits he doesn't take it every day because of the cost. He says his headache began early this morning and got worse throughout the day. When his vision started getting blurry, he asked a neighbor to take him to the ED. He also reports a 30-year history of smoking.

The ED nurse observes that he's overweight—a risk factor for hypertension. She also notes other risk factors: male, African-American, older than age 55, history of smoking, and nonadherence with his BP medication regimen. Based on Mr. Jones' history and physical findings, the nurse suspects he's having a hypertensive crisis—an umbrella term that includes hypertensive urgency and hypertensive emergency. Blood pressure and diagnostic results distinguish the two conditions.

- In *hypertensive urgency*, BP is 180/110 or higher but no associated damage to target organs (heart, lung, brain, or kidney) occurs.
- In *hypertensive emergency*, systolic pressure exceeds 190 mm Hg or diastolic pressure exceeds 120 mm Hg, and organ damage occurs.

Mr. Jones' extremely elevated BP, blurred vision, and worsening headache suggest a hypertensive emergency with brain damage from an impending stroke. To evaluate for possible stroke, the nurse asks Mr. Jones to smile so she can check for unilateral facial droop. She asks him to recite a simple sentence to evaluate his short-term memory and check for speech difficulty, and to raise both arms to check for unilateral limb weakness.

Call for help

The nurse alerts the physician, who orders a computed

tomography scan of the brain to check for stroke; a urinalysis to rule out renal disease; serum potassium, creatinine, and hematocrit tests to help detect secondary causes of hypertension; and an electrocardiogram (ECG) to check for left ventricular hypertrophy.

On the scene

The physician orders I.V. nicardipine, starting at 5 mg/hour and increasing 2.5 mg/hour every 5 minutes up to 30 mg/hour, adjusted as needed. Mr. Jones is admitted to the intensive care unit. Based on his BP response to the drug, the nicardipine dosage may be titrated downward 3 mg/hour as tolerated. The goal is to reduce his BP by 15% to 25% in the first hour. He requires careful monitoring, because reducing BP more than 25% per hour can cause organ damage. Nursing staff monitor him for adverse reactions linked to vasodilation, such as headache, nausea, vomiting, and tachycardia. His laboratory test results are unremarkable, and his ECG is normal.

Outcome

Nursing care goals are to monitor I.V. drug administration and Mr. Jones' response to treatment. When he's stable, his medication may be titrated to further lower his BP. On his second hospital day, Mr. Jones' BP decreases to 140/85 mm Hg and his nifedipine is switched to the oral route.

Education and follow-up

The nurse teaches Mr. Jones about his new medication regimen and stresses the importance of taking the drugs as prescribed. He is transferred to a step-down unit for 1 more day of monitoring.

At discharge, the nurse provides referrals for possible financial assistance with his medications, home health visits for short-term BP monitoring to ensure stability, nutritional services for counseling on weight reduction and dietary restrictions, and smoking-cessation education and counseling. ★

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