Hypertensive Emergency Characteristics and Presentation

Hypertensive emergency is characterized by an acute increase in blood pressure. Diagnosis is confirmed with pressures above 180/120 and signs of end-organ dysfunction. Examples of end-organ dysfunction include stroke, hypertensive retinopathy, acute heart failure, myocardial infarction, and acute kidney injury.



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Characteristics

Acute Increase in Blood Pressure
Acute-angle with Up-arrow and Hiker-BP
A hypertensive emergency is defined as an acute increase in blood pressure with signs of end-organ damage. Most often, this occurs in patients with chronic hypertension.

? 180/120
Greater than Cake with (100) Dollar-bill with (2) Tutu (8) Ball
Clinically, the diagnosis of a hypertensive emergency is made when systolic blood pressure is ?180 mm Hg and/or diastolic blood pressure is ?120 mm Hg. If the patient is asymptomatic or there are no signs of end-organ dysfunction, then the term "hypertensive urgency" can be used.

End-Organ Dysfunction
Organs Dysfunctioning
Once a patient is confirmed to be in a hypertensive crisis, the patient's condition must be classified as hypertensive urgency or a hypertensive emergency. A hypertensive emergency is diagnosed when evidence of end-organ dysfunction exists. Commonly affected organs include the heart, the brain, and the kidneys.

Clinical Features

Stroke
Stroke-Crew
Patients in the midst of a hypertensive emergency can develop a stroke. Prolonged hypertension can damage vessel walls and lead to inflammation. This can lead to coagulation cascade activation and subsequent fibrin clot formation, potentially leading to stroke.

Hypertensive Retinopathy
Hiker-BP with Red-tin-eyes
Severe prolonged hypertension can damage the delicate vessels of the retina, leading to hypertensive retinopathy. Fundoscopic examination will reveal flame hemorrhages and papilledema.

Acute Heart Failure
Acute-angle and Dead Heart
The development of acute heart failure in hypertensive emergency can be due to myocardial infarction or decompensation of existing heart failure.

Myocardial Infarction
Mayo-heart Infarction-fart
Myocardial infarction may occur as a result of prolonged elevated blood pressure. Coronary hypoperfusion and inflammation/fibrin deposition are associated with the pathomechanism of this complication.

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Acute Kidney Injury

Acute-angle Kidney-injured

Acute kidney injury (AKI) is the most frequently reported complication of hypertensive emergency. Most of the mortality of this disease can be attributed to sequelae of kidney failure. Fibrinoid necrosis and damage of renal arterioles is thought to be the cause of this disease. Typically, the AKI is prerenal.

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