Malignant Hypertension
(Hypertensive Emergency; Hypertensive Crisis; Hypertensive Urgency)

Definition

Malignant hypertension is blood pressure that is so high that it is actually causing damage to organs, particularly in the nervous system, the cardiovascular system, and/or the kidneys. One type of such damage is called papilledema, a condition in which the optic nerve leading to the eye becomes dangerously swollen, threatening vision.

This is a serious condition that requires immediate care. Rapid treatment can prevent long-term problems. Left untreated, damage from malignant hypertension occurs quickly and can be severe, involving organ damage to blood vessels, the eyes, heart, spleen, kidneys, and brain. In particular, kidney failure may develop since the blood vessels inside the kidneys are very sensitive to high blood pressure.

Cardiovascular System and Kidneys
Causes

In addition to having high blood pressure, medical conditions leading to the development of malignant hypertension include:

- History of kidney disorders or failure.
- Taking certain drugs or medications, including cocaine, amphetamines, monoamine oxidase inhibitors (MAOIs), and oral contraceptives.
- History of collagen vascular diseases.
- Pregnant women with preeclampsia and eclampsia.
- Pheochromocytoma.
- Spinal cord disorders.
- Coarctation or dissection of the aorta.
- Renal artery stenosis or narrowing of the arteries to the kidneys.
- Missing doses of prescribed antihypertensive medications, particularly beta-blockers or clonidine, which can cause a rebound effect. Medication noncompliance is the most common reason for hypertensive emergencies.

Risk Factors

Malignant hypertension is more common in men, African Americans, and in smokers. You are more likely to develop malignant hypertension if you already have essential hypertension—high blood pressure of 140/90 or higher.

Symptoms

Malignant hypertension produces noticeable symptoms, including:

- Chest pain
- Difficulty breathing
- Headache
- Visual problems
- Nausea and vomiting
- Numbness/weakness of the legs, arms, face

In particular, malignant hypertension can lead to a condition called hypertensive encephalopathy. Symptoms of this condition include headache, vomiting, blurry vision with papilledema, mental changes like anxiety, confusion, fatigue, and seizure.

Diagnosis

Your doctor will ask about your symptoms and medical history. A physical exam will be done. Your blood pressure readings will probably be very high. Readings will be taken in both arms, while lying down and while standing up. A careful stethoscope exam of your heart and a detailed neurological exam will be performed. An eye exam may show signs of high blood pressure, including swelling of the optic nerve or bleeding inside the eye.

Tests may include the following:

- Blood tests and urine tests
- Chest x-ray
- Echocardiogram or ultrasound of the heart to look for heart damage
- EKG to look at the heart’s electrical functioning
- Renal duplex or ultrasound test of the kidneys’ arteries to look for blockage

Treatment

Since malignant hypertension is a medical emergency, treatment needs to be received quickly. Treatment options include the following:
• IV high blood pressure medications—The specific medication will be chosen based on circumstances, including whether the person is suffering from damage to the kidneys or other organs. Possible medications may include:
  • Sodium nitroprusside or nitroglycerin
  • Beta-blockers
  • Hydralazine
  • Labetalol
  • Vasotec or other ACE-inhibitor
  • Oral high blood pressure medicines once blood pressure has been lowered from dangerous levels
  • Dialysis

**Prevention**

To help reduce your chance of developing malignant hypertension:

• Frequently check your blood pressure levels
• Report any sustained high blood pressure to your healthcare provider
• Take all prescribed high blood pressure medication regularly and avoid missing doses

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