

Vital Signs

- Blood pressure: 138/72 mmHg
- Heart rate: 68 bpm
- Respiratory rate: 14/min
- Oxygen saturation: 97% on room air

General

Elderly man appearing his stated age, in no acute distress at rest.

Cardiovascular

- **Harsh, crescendo-decrescendo systolic ejection murmur** best heard at the **right upper sternal border**, radiating to the **carotid arteries**
- Murmur intensity increases with squatting and decreases with Valsalva
- **Delayed and diminished carotid upstroke** (*pulsus parvus et tardus*)
- Single, soft S2
- No S3 or S4 appreciated

Pulmonary

Clear to auscultation bilaterally.

Abdomen

Soft, non-tender, no hepatomegaly.

Extremities

- Mild bilateral lower extremity pitting edema
- Peripheral pulses present but diminished

Neurologic

No focal deficits.

Diagnostic Studies

Electrocardiogram (ECG)

- Left ventricular hypertrophy with strain pattern

Chest X-ray

- Normal heart size
- Possible post-stenotic dilation of the ascending aorta

Transthoracic Echocardiogram

- Severely calcified aortic valve
- Aortic valve area: **0.8 cm²**
- Mean transvalvular gradient: **45 mmHg**
- Peak aortic jet velocity: **4.3 m/s**
- Concentric left ventricular hypertrophy
- Preserved left ventricular ejection fraction (60%)

Laboratory Studies

- BNP: mildly elevated
- Troponin: negative