

## QUESTION

A 65-year-old male patient with a long history of hypertension and hyperlipidemia presents to the emergency department with acute-onset chest pain and shortness of breath. The patient reports a tearing sensation in the chest that radiates to the back. Physical examination reveals tachypnea, rales in the lower lung fields, and a bounding carotid pulse. An electrocardiogram (ECG) shows sinus tachycardia. Laboratory studies show a serum lactate level of 2.5 mmol/L. A computed tomography (CT) scan of the chest with contrast reveals a dissection of the descending aorta. The patient is diagnosed with aortic dissection and is transferred to the intensive care unit for further management.

Parameter	Value
Heart rate	110 bpm
Blood pressure	180/100 mmHg
Serum lactate	2.5 mmol/L
ECG	Sinus tachycardia
CT scan	Dissection of the descending aorta

What is the most appropriate initial medical management for this patient?

## ANSWER



The most appropriate initial medical management for this patient is intravenous beta-blockade. The goal is to reduce the shear stress on the aortic wall by decreasing the heart rate and blood pressure. Intravenous beta-blockers, such as esmolol or metoprolol, are preferred because they have a rapid onset of action and are short-acting. After achieving target heart rate and blood pressure, intravenous calcium channel blockers (CCBs) like diltiazem or verapamil can be added to further lower blood pressure. Thrombolytic therapy is contraindicated in aortic dissection. Surgical repair is reserved for patients with Stanford type A dissection or those who fail medical management.