

### QUESTION

A 65-year-old male patient with a long history of hypertension and hyperlipidemia presents to the emergency department with a 2-day history of severe, crushing chest pain. The pain is described as a heavy weight on his chest and is exacerbated by exertion. He has a history of smoking 20 cigarettes per day for 30 years. His medical history is significant for a previous myocardial infarction 10 years ago and aortic aneurysm. He is currently on amlodipine, atorvastatin, and aspirin. He has no known allergies. His vital signs are: blood pressure 180/110 mmHg, heart rate 110 bpm, respiratory rate 20 breaths per minute, and oxygen saturation 92% on room air. Physical examination reveals a pale, diaphoretic patient with a 3rd heart sound (S3) and a 4th heart sound (S4) at the apex. There is no jugular venous distention, crackles, or wheezes. ECG shows ST-segment depression in leads II, III, and aVF, and ST-segment elevation in leads V1, V2, and V3. Troponin I is elevated at 0.15 ng/mL. The patient is diagnosed with acute coronary syndrome (NSTEMI).

Parameter	Value	Reference Range
ECG	ST-segment depression in leads II, III, and aVF; ST-segment elevation in leads V1, V2, and V3	Normal
Troponin I	0.15 ng/mL	<0.04 ng/mL
Blood Pressure	180/110 mmHg	90-120/60-80 mmHg
Heart Rate	110 bpm	60-100 bpm
Respiratory Rate	20 breaths per minute	12-20 breaths per minute
Oxygen Saturation	92% on room air	>95% on room air

What is the most appropriate next step in the management of this patient?

1. Administer aspirin 81 mg PO

2. Administer morphine 2 mg IV

3. Administer nitroglycerin 0.4 mg IV

4. Administer beta-blocker 5 mg IV

5. Administer aspirin 325 mg PO

### ANSWER

The most appropriate next step in the management of this patient is to administer aspirin 325 mg PO. The patient has a diagnosis of acute coronary syndrome (NSTEMI) based on his symptoms, physical examination, ECG, and troponin I levels. The ECG shows ST-segment depression in leads II, III, and aVF, and ST-segment elevation in leads V1, V2, and V3, which is characteristic of NSTEMI. The patient is also on aspirin, but it is unclear if he has taken his daily dose. Administering aspirin 325 mg PO is the most appropriate next step in the management of this patient.

The other options are not the most appropriate next steps in the management of this patient. Administering aspirin 81 mg PO is not the most appropriate next step because the patient is already on aspirin. Administering morphine 2 mg IV is not the most appropriate next step because the patient does not have any signs of pain. Administering nitroglycerin 0.4 mg IV is not the most appropriate next step because the patient does not have any signs of ischemia. Administering a beta-blocker 5 mg IV is not the most appropriate next step because the patient does not have any signs of heart failure.

Therefore, the most appropriate next step in the management of this patient is to administer aspirin 325 mg PO.

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3. Administer nitroglycerin 0.4 mg IV

4. Administer beta-blocker 5 mg IV

5. Administer aspirin 325 mg PO