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HPI:

Nicholas Easter is a 63-year-old white male who presents to the University Hospital Emergency Department with complaints of severe chest pain and shortness of breath. He states approximately one hour ago, he was watching television with his wife at home when the pain began "all of a sudden." His wife then drove him to the ED.

Upon further questioning he states the pain is 9/10 in severity, "squeezing" in nature, located in the central chest region with no radiation, and nothing has made it feel better or worse. He has never experienced anything like this before, and he is worried he is going to die.

Further history is obtained.

PMHx: Obesity, hypertension, and hyperlipidemia.

Medications: include enalapril, low-dose daily aspirin, and "some static or statin pill." He has no known drug allergies.

Family Hx: father died of "natural causes" at 68 and suffered from hypertension and coronary artery disease. Mother died of a stroke at 74 and had diabetes.

Social history is obtained. He lives in Columbia, Missouri with his wife of 14 years. He works as a truck driver and is required to remain seated for several consecutive hours and does not exercise often. He has two children, both of whom are healthy, and he drinks a "couple of beers" per week, smokes approximately 1 pack of cigarettes per day, and denies illicit drug usage.

1. What are your hypotheses?
2. What are the next steps in management?
3. The patient has told you he is worried and asks you if he is going to die. How do you respond?
4. How would you counsel a patient on smoking cessation?

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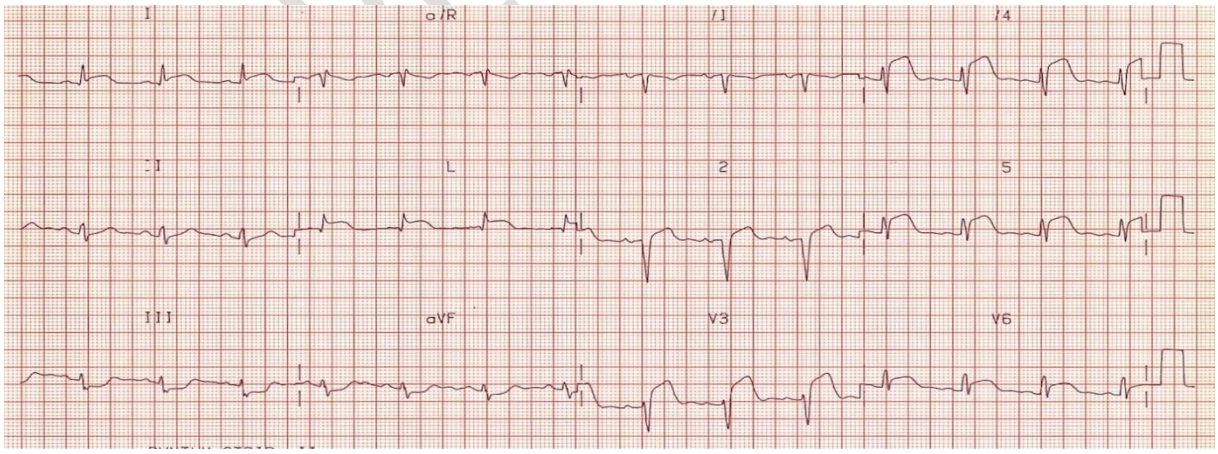
Physical exam:

Vital Signs: Ht: 6'1'' / Wt: 293 lbs / Temp.: 37.8° C / HR: 110 bpm / BP: 160/94 / RR: 24 / O_2Sa: 92%

General: Obese white male who is diaphoretic and noticeably anxious.
HEENT: Moist, pink oral mucosa. Tympanic membranes clear.
Neck: Supple, nontender with no evidence of cervical lymphadenopathy.
Heart: Regular rate of 110/min. Grade 2/6 holosystolic murmur at left sternal border and apex. Point of maximal impulse (PMI) displaced to the 6th left intercostal space (LICS).
Lungs: Bilateral crackles appreciated diffusely.
Abdomen: Soft, nontender, obese abdomen. Bowel sounds present in all four quadrants.
Genitourinary: No rashes or lesions. Normal testes. No hernias noted.
Musculoskeletal: 5/5 motor strength in bilateral upper and lower extremities. No back/spine deformities or tenderness to palpation.
Neurological: Alert and oriented to person, place, time, and situation. Cranial nerves II-XII grossly intact.

EKG is obtained by the triage nurse, which reveals tachycardia and ST-segment elevation in leads $V_2 - V_6$.

Patient is placed on supplemental oxygen by facemask, IV access is obtained, and morphine and nitroglycerin are administered. Continuous heart monitoring is also ordered.



1. What are your hypotheses now?
2. What are the next steps in management?
3. What is the significance of the EKG? Why were morphine and nitroglycerin given?

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Complete Blood Count
WBC: 15.1 x $10^3/mm^3$ (4-11)
RBC: 7.4 x $10^3/mm^3$ (4.6-11)
Hemoglobin: 14.2 g/dL (12-15)
Hematocrit: 38.3% (37-47)
Platelets: 373 x $10^3/mm^3$ (150-400)

Metabolic Panel
Sodium: 142 mEq/L (136-148)
Potassium: 5.1 mEq/L (3.7-5.4)
Chloride: 107 mEq/L (96-111)
CO2: 26 mEq/L (23-33)
Glucose: 118 mg/dL (70-110)
Total Protein: 7.4 gm/dL (6-8.5)

Cardiac panel:
Troponin I: 3.2 ng/ml (0-0.1)
CK: 875 ng/mL (38-120)
CK-MB: 77 ng/mL (0-3)

Portable Chest x-Ray: **EXHIBIT 1**

1. What are your hypotheses now?
2. What is the significance of the chest x-ray?
3. What are the next steps in management?

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CXR interpretation: Chest x-ray reveals cardiomegaly and diffuse pulmonary edema

Mr. Easter has now been at UMHC for 35 minutes (approximately 1 1/2 hours since pain first began). He is taken to the coronary catheterization lab, where he undergoes percutaneous coronary intervention (PCI) for treatment of acute ST-elevated myocardial infarction (STEMI). Mr. Easter is also given a 300 mg loading dose of clopidogrel, with orders for 75mg to be given daily.

Mr. Easter is feeling much better soon after PCI and is transferred to the cardiac intensive care unit. The cardiologist asks Mr. Easter if he had taken his enalapril today; he states he cannot remember and admits that he has not been very adherent with his prescribed medications or doctor-recommended diet. He is very worried that he will "end up like dad," who had a "bad heart." He states that he is willing to do whatever it takes to stay healthy and will stick to whatever medications or diet you recommend.

Over the next several days, Mr. Easter does very well. He is transferred to the floor on hospital day #2 and is discharged to home on hospital day #4. Discharge medications include clopidogrel, enalapril, metoprolol, and low-dose aspirin. He is to have a follow-up appointment with his doctor in one-week and promises he will call if he has any questions or concerns. He is very grateful for your hard work and insight and is happy that you were the doctor on his case.

1. Why is the time at UMHC significant?
2. What is percutaneous coronary intervention? Are there any other options for treatment?
3. What are some ways to help Mr. Easter remain compliant with the treatment plan?