

Cardiac Case Study

Instructions: Download the *Cardiac Case Study Answer Sheet.docx* from Doc Sharing. Using your text and other sources as needed, answer the following questions on the answer sheet. Cite your sources and add a reference list at the end of your answers. Upload to the Dropbox by the due date specified on your course calendar.

NOTE: You may not copy/paste from the textbook or internet sources. *Short quotes* may be used if cited correctly. This paper, as are all CCN assignments, is subject to the rules of academic integrity and may be submitted to Turnitin.com for similarity checking. See *Policies* in the course shell or Student Handbook.

Case Study (100 points possible)

Bill Canton is a 52 year old Chief Financial Officer of a large urban medical center. After ingesting an entire roll of TUMS™ that he got from his secretary, his indigestion had not improved. He blamed it on the pizza he had wolfed down at his desk for lunch, but by three o'clock, it was getting worse, not better. His secretary insisted that he go to the emergency room or she was going to call 911.

Mr. Canton presented to the ER complaining of epigastric pain unrelieved by antacids. An EKG was done indicating ST segment elevation. The pain was not relieved by three sublingual nitroglycerin tablets. Three doses of morphine sulfate given intravenously relieved the pain and he was transferred to the cardiac intensive care unit to rule out a myocardial infarction.

Data Obtained From Nursing Assessment

- Skin cool and clammy.
- Inspiratory crackles heard in lung bases; oxygen supplemented at 2 liters/minute via a nasal cannula
- Vital signs: temperature, 98.6°F; pulse, 120; respirations, 24; Blood pressure 90/62
- Cardiac monitor showed sinus rhythm with occasional premature ventricular contractions (PVCs)
- Lab values: Elevated isoenzymes: troponins, creatine kinase-myocardial bound (CK-MB) and lactic acid dehydrogenase (LDH).

Mr. Canton asked the nurse ask his secretary to cancel his dental appointment for tomorrow. He stated he needed to have a wisdom tooth removed because it was hurting his entire jaw for the past couple of days.

He stated was thirsty, but immediately vomited the water he drank.

Case Study Questions: Myocardial Infarction (50 points)

1. What is the significance of an elevated ST segment inversion on an EKG and the PVCs the nurse sees on the monitor? (5 points)
2. What is the pathophysiology causing Mr. Canton's cool, clammy skin and inspiratory crackles? (5 points)
3. Is his dental pain significant? Why or why not? (5points)
4. Why would Mr. Canton vomit after drinking water? (5points)

5. Why are his isoenzymes elevated? What pathology caused this? (5points)
6. What pathophysiology occurs during a myocardial infarction? Include all four processes. (25 points)

Mr. Canton's pain was relieved by the morphine, but 2 hours later he called the nurse complaining of severe shortness of breath, chest pain and asking her to "get this elephant off my chest!" Monitor showed sinus tachycardia with frequent PVCs, blood pressure 70/40. His mental status deteriorated to confusion and within ten minutes he was unresponsive. His skin color was dusky and felt cold and clammy. Lung sounds had increased crackles all the way up on both sides. The doctor diagnosed cardiogenic shock. He was started on rapid IV fluids and blood pressure elevating medications and rushed to the cardiac catheterization lab for an emergency angioplasty.

Case Study Questions: Cardiogenic Shock (50 points)

1. Describe the pathological processes of shock including impairment of oxygen and glucose use. (30 points)
2. What are the pathological events that caused Mr. Canton's symptoms? Discuss each symptom. (10 points)
3. How does a coronary angioplasty improve the chances of survival in cardiogenic shock? You will need to use outside sources for this question. End your answer with an APA formatted reference. (10 points)