**NU606 Week 7 Cardiovascular Case Study**

**Part 1**

Ms. X, age 55 years, has been complaining of severe fatigue and “indigestion” on and off, but it seems to be getting worse over the past several hours. Her son is quite concerned and decides to take her to the emergency department. On arrival, she appears very anxious, and her facial skin is cool and clammy; her blood pressure is 90/60, and the pulse is around 90, weak and irregular. She is given oxygen, an intravenous line is opened, and leads for ECG are attached. Blood is taken for determination of serum enzymes and electrolytes. Tentative diagnosis is myocardial infarction involving the left ventricle. Her son provides information that indicates Ms. X is a long-time smoker, has a stressful job as a high school teacher, is recently separated after 20 years of marriage, and is fearful of losing the family home. She has also seemed to be more fatigued, and stopped going to the gym about 18 months ago. She has begun to rely on “fast foods” like pizza and fried chicken and cooks infrequently. Her father died of a heart attack at age 50. She has also noticed more fatigue and intermittent leg pain when walking or climbing stairs at work. Generalized atherosclerosis is suspected.

1. List the high-risk factors for atherosclerosis in this patient's history. For each risk factor, identify whether that would be measured/reported subjectively, objectively, or both.

|  |
| --- |
|  |

1. Assuming Ms. X does, indeed, have atherosclerosis, how would this lead to the condition she is experiencing today?

|  |
| --- |
|  |

1. What do you suspect Ms. X was experiencing when she reported “indigestion”? Was this true indigestion or related to her cardiac condition? Explain the pathophysiology behind this pain.

|  |
| --- |
|  |

1. Think about the normal or typical presenting signs of myocardial Infarction. What is atypical in Ms. X's symptoms? How does this affect treatment and prognosis?

|  |
| --- |
|  |

1. What serum enzyme and electrolyte levels do you anticipate being checked in the ED. How are these levels related to the changes happening in Ms. X’s cardiovascular system?

|  |
| --- |
|  |

**Part 2**

Since Ms. X is now stable and you are waiting on labs, you review some of her medical records. At her last several office visits with her PCP, her blood pressure was noted to be 145/90, 138/96, 150/94, and 142/96. She is not taking any medications for blood pressure at this time.

1. Do you think Ms. X has essential hypertension? Evaluate her blood pressure readings and use them to support your position.

|  |
| --- |
|  |

1. Describe the pathophysiology of essential hypertension.

|  |
| --- |
|  |

1. Identify and describe two possible problems associated with prolonged high diastolic pressure.

|  |
| --- |
|  |

**Part 3**

After some diagnostics, it is determined that Ms. X has a large infarct in the anterior left ventricle; she continues to be monitored on telemetry.

1. What ECG changes would you expect to support left ventricular involvement and infarction?

|  |
| --- |
|  |

1. Ms. X is showing increasing PVCs on the ECG. What is causing these and what can happen if these continue to increase in frequency.

|  |
| --- |
|  |

1. Ms. X is preparing to go home with her son. Write her discharge instructions.

|  |
| --- |
|  |

1. What lifestyle measures should be included to prevent a recurrent cardiac event?

|  |
| --- |
|  |

1. It is determined by the team that she should be started on an antihypertensive agent, as her blood pressures have remained elevated during her admission. Identify two medications helpful in treating hypertension and describe their actions.

|  |
| --- |
|  |

**Part 4**

Unfortunately, Ms. X's condition becomes less stable, and she is unable to go home. Several days later, she is found unconscious on the floor of her hospital room bathroom. Her pulse is weak and elevated, and her skin is moist with pallor evident. Her BP is 50 systolic. A diagnosis of cardiogenic shock is made, and resuscitation efforts are started.

1. What signs and symptoms is Ms. X exhibiting that support cardiogenic shock? Label each as subjective (symptom) or objective (sign).

|  |
| --- |
|  |

1. Describe the pathophysiology of cardiogenic shock and the effects of cardiogenic shock on the organs of the body.

|  |
| --- |
|  |