

### Week 3 Discussion

An 81-year-old female was admitted to the cardiology unit following an acute ST-Elevation Myocardial Infarction (STEMI) 3 days ago. She was treated successfully with percutaneous coronary intervention and stent to the right coronary artery. She now has symptoms of mild confusion, lightheadedness, and generalized weakness. She vomited her medications this morning. You have a high suspicion of cardiogenic shock. Her blood pressure is 81/30; HR 112. Identify the medications (dose, route, frequency) you would prescribe for this patient. Explain your rationale for each agent prescribed.

The patient is showing signs and symptoms of cardiogenic shock as evidenced by hypotension, mild confusion, lightheadedness, generalized weakness and tachycardia. This type of shock is the result of cardiac impairment that results in decreased cardiac output, reduction in contractility, hypoxia, and impaired perfusion to organs (Vahdatpour et al., 2019). Additionally, systemic vasoconstriction occurs in an effort to compensate for the decreased cardiac output (Vahdatpour et al., 2019). While this is initially helpful, it can eventually cause an increase of the work requirement of the already damaged heart. The concern for this patient is decreased cardiac output and the negative impact on organ perfusion. In order to increase contractility and cardiac output to adequately perfuse tissues and organs, I would prescribe Norepinephrine 8- 12  $\mu\text{g}/\text{min}$  via continuous intravenous infusion. Norepinephrine is an alpha-1 adrenergic receptor agonist with some beta-agonist activity (Braile-Sternieri et al., 2018). This means that it will work to increase blood pressure and aid in cardiac function. I chose this medication in place of inotropes such as dobutamine because “the action of peripheral vasodilation may worsen coronary perfusion” (Braile-Sternieri et al., 2018, p. 79). Instead, norepinephrine can be used in very hypotensive patients to begin treatment of cardiogenic shock. In addition to norepinephrine, I would also prescribe oxygen therapy as needed to maintain a saturation greater