A 72-year-old man collapses while playing golf. He has a 5-year history of angina and type 2 diabetes mellitus. Paramedics arrive in 10 minutes. Examination shows no respirations or blood pressure; an ECG shows asystole. Cardiopulmonary resuscitation is attempted for 10 minutes without success. Which of the following is the most likely cause of death in this patient?

(A) Cardiac tamponade  
(B) Embolus to the right middle cerebral artery  
(C) Necrosis of the myocardium  
(D) Rupture of the papillary muscle  
(E) Ventricular fibrillation

1. Know the number one cause of sudden cardiac failure and be able to describe its clinical signs and symptoms.  
2. Understand the effects of cardiac ischemia on papillary muscles and heart tissue.  
3. Understand the classic presentation of a patient with middle cerebral artery (MCA) occlusion.  
4. Understand the etiology of cardiac tamponade.
## Texas Tech MedCast Podcast Episode Fact Sheet

| Key Teaching Points | • Ventricular fibrillation is present in 70% of patients with cardiac arrest.  
• Myocardial ischemia can lead to necrosis of ventricular tissue and/or pappilary muscles resulting in dysfunction.  
• Patients with a MCA occlusion typically present with upper motor neuron symptoms of the contralateral side.  
• In cardiac tamponade, fluid accumulates in the pericardium compressing the heart and is usually preceded by percarditis, chest trauma, or myocardial infarction. |
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<tr>
<td>Keywords</td>
<td>Geriatrics, USMLE step exam, Ventricular Fibrillation, Sudden Cardiac Death</td>
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*Merck Manual Online*: Cerebrovascular Accident,  
**http://www.merckmanuals.com/professional/sec16/ch211/ch211a.html#CACGGIGE**.  
*Merck Manual Online*: Mitral Valve Prolapse,  
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*Wikipedia*: Myocardial Necrosis, **http://en.wikipedia.org/wiki/Myocardial_infarction**.  
Yarlagadda, Chakri, et al. (2010). *Cardiac Tamponade*.  
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