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Signs and Symptoms of Traumatic Cardiac Arrest and Management of Reversible Causes

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INTRODUCTION

Traumatic cardiac arrest (TCA) is a medical emergency in which the heart ceases to beat due to blunt or penetrating trauma, such as a stab wound to the thorax. If advanced medical care is not received promptly, the patient will always die. In recent years, protocols have been proposed to improve survival rates in patients with traumatic cardiac arrest. However, the variable causes of this condition and the numerous coexisting injuries can make these protocols difficult to standardize. Even with prompt medical intervention, survival without neurological complications is rare.

DESCRIPTION

The emergency team must first determine the cause of the traumatic cardiac arrest and reverse its effects, such as hypovolemia and haemorrhagic shock due to a penetrating injury, in order to treat traumatic cardiac arrest, which is a complicated form of cardiac arrest that frequently deviates from advanced cardiac life support. Any severe chest injury that is penetrating or blunt can result in traumatic cardiac arrest. The heart stops pumping blood through the body after the trauma. Dissimilar to clinical heart failure, there are a few possibly reversible causes that might bring about heart failure in the setting of injury. These causes will be quickly evaluated by clinicians, and interventions will be tailored to the specific cause. Massive internal or external bleeding can reduce the amount of blood that can be delivered to the body by the heart in both blunt and penetrating trauma. Preload dependent arrest is what this is called. When air can enter the space between the lung and the chest wall but cannot exit, tension pneumothorax occurs. Blood can't come back from the body to fill the heart because of the rising pressure in the chest cavity. Hemothorax occurs when bleeding enters the thoracic cavity as a result of a chest injury. Increasing pressure prevents blood from returning to the heart, similar to tension pneumothorax. An acute pericardial effusion, or the accumulation of blood within the sac that surrounds the heart, is what causes cardiac tamponade in trauma situations. As this sac is loaded up with liquid, the tension on the heart is expanded, and the offices of the heart can't load up with blood. After a traumatic event, most patients will present with pulseless electrical activity (PEA). Patients will have pulses that can't be felt and low blood pressure. Patients will advance into asystole on the off chance that the fundamental condition isn't turned around. Sweating, altered mental status, rapid or sluggish breathing, and signs of trauma (such as bruising, laceration, fractures, etc.) are additional nonspecific signs and symptoms of imminent traumatic cardiac arrest.

CONCLUSION

EMS or the emergency departments use an electrocardiogram to first diagnose traumatic cardiac arrest. Additionally, diagnostic tests such as a chest x-ray, bedside ultrasound and echocardiogram, and blood gas levels may be ordered by clinicians. In order to match the patient for a blood transfusion, a type and cross will be ordered. E-FAST, RUSH exam, CBC, pelvic X-ray, and CT of the head, neck, chest, abdomen, and pelvis are additional diagnostic tests for trauma patients. Because standard advanced cardiac life support guidelines are primarily geared toward treating pathology originating within the heart itself, they are inappropriate for use in traumatic cardiac arrest. Thoracotomy, thoracostomy, and treatment of the underlying cause of the arrest are examples of additional interventions.

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CONFLICT OF INTEREST

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