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Successful Resuscitation and Management of Pneumothorax in a Patient with Perforated Peptic Ulcer: A Case Report

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Abstract

Cardiac arrest in operation theater is rare and the most successful CPR because mostly patient is already intubated. In this case report, we describe the successful management of a 26-year-old male with a chronic perforated peptic ulcer who led to cardiac arrest during surgery and subsequently developed a pneumothorax. The patient was admitted to the Iranian hospital of Dubai and transferred to the operating room as an emergency case. Anesthesia was induced with 100 µg fentanyl, 2 mg midazolam, and 70 mg ketamine.

Keywords: *cardiac arrest, pneumothorax, resuscitation, CPR in OR.*

Introduction

Cardiac arrest in operation theater is a serious medical condition that requires prompt Anesthesiologist action. Delay in diagnosis and treatment can lead to death or life-threatening complications. In this case report, we describe the successful management of a 26-year-old male with a chronic perforated peptic ulcer patient with sepsis in who led to cardiac arrest during surgery and subsequently developed a pneumothorax.

Case Presentation

A 26-year-old male with a history of chronic peptic ulcer and sepsis was admitted to the Iranian hospital of Dubai with severe abdominal pain. He was transferred to the operating room as an emergency case with vital signs of HR:148/min RR:25/min BP:92/48 mm hg. The patient was ill and confused and toxic with a body weight of 50 kg. Lab tests showed a high level of PCT (147.8), CRP (25.15), and low calcium (6.58 mg/dl) and HGB 11.4g/dl and WBC 14.32 10^/uL.

Before induction of anesthesia, 1.5 liters of Ringer's solution were infused during 30 minutes.

Anesthesia was induced with 100 µg fentanyl, 2 mg midazolam, and 70 mg ketamine 40mg Esmeron. After induction, the patient's blood pressure dropped to 82/40. Free Ringer's solution was started, and 10 mg ephedrine was administered and patient's blood pressure corrected to 100/60. Midline incision was done at 1:15 AM. The patient was stable until 1:30 AM, at 1:30AM we noticed BP drop and patient developed VF rhythm no BP was detected no pulse and End tidal co2 decreased to 10, cardiac

arrest announced by Anesthesiologist and asked surgeon to stop the operation. Immediate cardiopulmonary resuscitation (CPR) was started, and the ACLS protocol was followed. The patient was already intubated, and chest compressions were initiated immediately.in 2 minutes of chest compression no pulse detected and 200 joules cardioversion given and Epinephrine was administered in 5th minute of chest compression and repeated every 5 minutes,300 mg amiodarone was given after the cardioversion. After 20 minutes of CPR, the patient's sinus rhythm was restored,pulse checked by Anesthesiologist and detected BP:70/45 mm hg HR:135/min ,norepinephrine infusion started by anesthesiologist by dosage 10 mcg/min and after 5 minute BP detected 105/65 HR:120/min anesthesiologist asked the surgeon to continue the operation operation finished in 1hour after patient sent to ICU intubated.

The patient was transferred to the ICU and placed on mechanical ventilation FIO2 50% RR 12/min Peep 3mmhg norepinephrine with same dose continued and BP:100/60 & HR:110/min, ABG after 1 hour in ICU was "PH:7.32 PCo2:48 P02:110 Hco3:22" At the morning of surgery Spo2 was decreased from 98 of last night to 91 , CXR advised and showed crack in 4th rib of left side in midclavicular line and and pneumothorax in left side detected, supposed was cracked during chest compression; left lung was not ventilating well and was not expanding well; Chest tube inserted by surgeon and after Spo2 increased slightly to 99% ;CXR after 4 hours shows left lung expanded better and no more pneumothorax.

Patient was weaned off the ventilator after 5 days of hospitalization, patient extubated in 5th day after operation and chest tube removed in same day after 6 hours of extubation.

The patient's respiratory status gradually improved; on the 10th day of hospitalization the patient's laboratory values had improved, with a decrease in PCT levels. The patient was started on a soft diet, which he tolerated well, and he was gradually transitioned to a regular diet. and He was closely monitored for the next 2 weeks in ICU, during which he received antibiotics, proton pump inhibitors, and nutritional support. He was also given analgesics, sedatives to manage his pain. He developed mild breathing problems, which were managed with bronchodilators and chest physiotherapy. He was out of bed on 14^{th} day of hospitalization and discharged from the ICU to ward after. On the 15^{th} day of hospitalization, the patient's condition had significantly improved, and he was deemed stable for discharge. patient discharged after 3 weeks from hospital.

He was discharged with close follow-up appointments scheduled with his primary care physician and the surgical team. The patient was advised to continue his medications and to follow a healthy diet and lifestyle.

In conclusion, the successful management of a patient with a acute abdomen led to cardiac arrest requires a multidisciplinary approach involving anesthesiologists, surgeons, and critical care physicians. This case highlights the importance of prompt diagnosis and intervention, as well as the need for careful monitoring and management of potential complications. The use of advanced resuscitation techniques and supportive measures can help improve outcomes in critically ill patients with perforated peptic ulcers.

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