Pneumoperitoneum after Cardiopulmonary Resuscitation

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Pneumoperitoneum after resuscitation is an uncommon complication of cardiopulmonary resuscitation (CPR). Herein, we described an elderly woman who had hollow organ perforation following a successful CPR for sudden cardiac arrest, which was caused by acute myocardial infarction. The pneumoperitoneum was confirmed by chest radiography obtained after resuscitation. However, she did not receive surgical intervention and expired finally due to the multiple organ failure under conservative treatment.

Key words: pneumoperitoneum, cardiopulmonary resuscitation

Introduction

Cardiopulmonary resuscitation (CPR) is the most useful life-saving maneuver in patient with sudden cardiac arrest. However, some complications have been reported following this procedure,¹⁴ even when it was performed properly. Herein, we presented a case of hollow organ perforation following a successful CPR.

Case Report

A 74-year-old woman presented with sudden collapse after progressive dyspnea and chest discomfort for three days. There was no nausea, vomiting, and abdominal pain during the whole course of illness. She has a medical history of diabetes mellitus, hypertension and coronary artery disease (CAD). Her son - an emergency medical technician (EMT) – witnessed the episode of sudden cardiac arrest and started CPR immediately, including use of laryngeal mask airway and bag-mask ventilation. At the same time, the bystander sent the patient to our emergency department. Endotracheal intubation was smoothly performed, and return of spontaneous circulation developed after a total of twenty minutes of CPR. However, progressive abdominal distention was noted and much fresh blood was drained from nasogastric tube. The examination of electrocardiogram (ECG) disclosed ST segment elevations in lead II, III and aVF, and the serum creatinine kinase level was 1096 IU/L, with MB fraction (16.6 ng/ml), and an elevated serum Troponin-I level (2.93 ng/ml). Chest radiography then showed diffuse infiltration over bilateral lung fields and right subphrenic free air (arrow) (Fig. 1). Computed tomography of abdomen disclosed massive intra-peritoneal air which indicated perforation of hollow organ. Because her family refused further surgical intervention, the patient died under conservative care two days later.