

ED Management of a Patient in PEA with Aspirated Foreign Body

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Introduction

Foreign body airway obstruction is common in children but less frequent in adults. Symptoms can range from cough, dyspnea, choking, and acute asphyxiation leading to cardiorespiratory arrest. Poor neurological status, irrespective of the primary cardiac arrest arrhythmia, is the predominant cause of death among survivors of OHCA [1]. Clinical manifestations vary according to the degree of airway obstruction in some cases making the correct diagnosis requires a high level of clinical suspicion combined with detailed history and exam.

Prehospital cardiopulmonary arrest carries poor prognosis with survival rate less than 10% [2]. Large food bolus obstruction occurs primarily in mentally impaired elderly patients, those with swallowing difficulties post stroke, children [3] or edentulous patients.

Meat is the commonest food product causing bolus obstruction and particularly so in patients with pre-existing esophageal strictures. Meat impaction resulting in esophageal obstruction is an urgent problem and the bolus should be removed within hours [4] Foreign bodies such as coins, batteries and toys form the majority of foreign bodies ingested by children [5,6]. Patients with esophageal motility disorders often achieve diagnosis after their first obstruction.

Case Representation

A 74 year old gentleman brought to ED by NAS (National Ambulance Service) having collapsed at home, CPR initiated by Neighbors brought to ED with ROSC from witnessed cardiopulmonary arrest. 2-3 cycles of CPR completed prior to EMS arrival.

Management and Outcome

Patient was self-ventilating on arrival but was intubated and ventilated in ED secondary to persistent low saturation despite seemingly adequate ventilation. No foreign body visualized during intubation.

Patient suffered two further cardiac arrests (PEA) in ED 2-3 cycle of CPR initiated by ED team 2 mg of adrenaline was given with ROSC each time (Figure 1).

A flexible bronchoscope was introduced through the tube and large meat bolus (3-4 cm) retrieved using endoscopy biopsy

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Figure 1 Patient suffered two further cardiac arrests (PEA) in ED 2-3 cycle of CPR initiated by ED team 2 mg of adrenaline was given with ROSC each time.

forceps with improvement in respiratory status and patient subsequently admitted to ICU.

Patient extubated after 4 days, treated for aspiration pneumonia and discharged from hospital after 21 days with no neurological deficit [7] (Figure 2).

Discussion

Tracheobronchial Aspiration is life threatening, early recognition is vital. This case highlights importance of early CPR in OHCA, advantages of flexible bronchoscopy and endoscopic biopsy forceps in retrieval of foreign body. Flexible bronchoscopy allows



Figure 2 Patient extubated after 4 days, treated for aspiration pneumonia and discharged from hospital after 21 days with no neurological deficit.

for a more comprehensive airway survey and has an overall 90% success rate for retrieval [8].

It also demonstrates that successful resuscitation requires multidisciplinary approach and frequent re-evaluation if no improvement after interventions.

Community CPR initiatives have had numerous early successful resuscitations. This also highlights the importance of early CPR in OHCA.

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