

## Background

Aspiration of food bolus causing obstruction is an airway emergency. It can lead to hypoxia, haemodynamic compromise and death.

Performing the Heimlich manoeuvre (abdominal thrust) as part of basic life support (BLS) is indicated when coughing is ineffective. However, traumatic complications arising from this manoeuvre can be life-threatening especially in elderly population<sup>1,5.</sup>



Figure 1: Illustration of the Heimlich manoeuvre being performed (adapted from ninetymiles (2013). http://ninetymilesfromtyranny.blogspot.com/2013/12/weneed-to-cooperate-to-eject-foreign.html. [image]) **Case Report** 

# Initial Presentation

A 90 year old nursing home resident suffered a choking episode while eating. A bystander performed the Heimlich Manoeuver and she was transferred to the Emergency Department(ED) by ambulance.

PMedHx: Bladder Ca, duodenal ulcer, COPD, amyloid angiopathy, partial thyroidectomy, and required a wheelchair for mobility. On arrival: airway obstruction, SaO2 88% on 15L O2, resp rate 28/min, HR 144, BP 95/64, GCS 13 (E3V4M6).

Myth of the MEAT: The Heimlich Manoeuvre Extension to Advanced Trauma Dr Comfort Adedokun, Dr Eimhear Quinn, Dr John Cronin, Dr Nigel Salter Emergency Department, St Vincent's University Hospital, Elm Park, Dublin4

## Resuscitation

The patient was not improving after initial conservative measures and a portable CXR revealed a suspected haemothorax (Fig 2a). A definitive airway was established and a CT was then performed (Fig 3). This revealed acute fractures of T6, sternum, and bilateral third to seventh ribs, a right sided haemothorax, para-mediastinal bullae, aspiration pneumonitis, and bilateral lower lobe atelectasis with left

sided effusion.

Initial labs: Lactate: 4.0; WBC: 25 x 10^9/L; Neut: 20.4 x 10^9/L; CRP: 6 HB:11.7g/dL

A 28Fr chest drain was inserted and 500ml of blood drained. She was treated with 1L crystalloid fluid, 1g Tranexamic acid, and 2 units of red cell concentrate. The surgical and ICU team were notified. Following review and discussion with next of kin, it was agreed that she was for ongoing treatment but not surgery or ICU admission. She was extubated in ED prior to transfer to a HDU bed.

### • Outcome

The chest drain was removed on day 4. Following multi-disciplinary input and rehabilitation, the patient made a recovery to baseline status and was discharged on day 11.



Figure 2a,b: Chest X-ray



**Figure 3:** CT Thorax and Abdomen showing large right haemothorax with lower lobe atelectasis, multiple rib fractures and sternal fracture.

# Learning Points

The Heimlich Manoeuver was first described 1974. The abdominal thrust causes a raised intrathoracic pressure to encourage expulsion of the foreign body<sup>2,3</sup>. It was described as non-traumatic, however several complications have been reported especially in the over-65 population<sup>4</sup>.

Technique-modification to decrease the administered pressure should be considered in this age group.

The incidence of geriatric trauma is increasing<sup>5</sup>. This demographic is predisposed to higher risk of complications and death due to their premorbid state and physiologic changes that limit the response to trauma.

Early recognition and resuscitation of occult trauma in elderly with awareness of co-morbid conditions and resuscitation status may improve patient outcome and decrease mortality.

## References

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<sup>1.</sup>Wolf DA. Heimlich trauma: a violent maneuver. Am J Forensic Med Pathol 2001;22:65–67.

<sup>2.</sup>Pravitt et al. Choking on a foreign body: a physiological study of the effectiveness of abdominal thrust maneuvers to increase thoracic pressure.thoraxjnl-2016-209540