

East African Medical Journal Vol. 97 No. 12 December 2020

CASE REPORT: SUDDEN DEATHS DUE TO CHOKING TO STOMACH CONTENTS

Martha Wanjiku Mwangi, MBChB, Mmed, Department of Forensic Medicine, Nyeri Country referral and Teaching Hospital, P.O Box 7, Nyeri, Peter Mwamba Maturi MBChB, Mmed, Fellow (Haem)Department of Pathology, University of Nairobi, P.O Box 19676-00202

Corresponding author: Peter Mwamba Maturi, Department of Pathology, University of Nairobi, P.O Box 19676-00202. Email: [pmmwamba@yahoo.com](mailto:pmmwamba@yahoo.com)

## CASE REPORT: SUDDEN DEATHS DUE TO CHOKING TO STOMACH CONTENTS

M. W. Mwangi and P.M. Maturi

### ABSTRACT

**Death due to accidental choking is commonly observed in children below 4 years of age being the common victims<sup>1</sup>. The children will choke from common items that the children play with including tiny toys, balloons and coins placed in the mouth and inhaled by accident<sup>2/3</sup>. In adult's aspiration is common to gastric contents especially in individuals with lowered level of consciousness e.g. in drug intoxication<sup>4,5</sup>. Mechanism of death in aspiration is due to respiratory failure resulting from asystole due to hypoxia induced dysfunction in the respiratory centers in the brain stem<sup>5</sup>. We hereby report two cases of sudden death due to choking from stomach contents which were brought to our mortuary for autopsy.**

### INTRODUCTION

Choking is a form of asphyxia which is caused by impaction of a foreign body in the respiratory passage usually between pharynx and bifurcation of trachea <sup>7</sup>. Choking is the top five causes of death in the United States of America<sup>8</sup>. According to *Injury Facts 2017*, choking is the fourth leading cause of unintentional injury death especially in the elderly<sup>8</sup>. There is a bimodal distribution in the ages, affecting the young between the ages of 1 to 3 years and the elderly who are greater than 60 years<sup>8,9</sup>. The most common objects on which children choke are food, coins, balloons, and other toys<sup>3</sup>. Of the adult fatalities associated with choking, there is a

strong association with dementia (including Alzheimer disease) and Parkinson disease<sup>5</sup>. Decreased salivation in the elderly is also implicated as this impairs the ability to transfer food during swallowing<sup>5</sup>.

### CASE ONE:

A twenty eight year old man was found dead the next day after he failed to turn up to work as was his normal schedule. The previous night he had dinner with two sets of his friends who had come at different times. In both instances he had some food and drinks with each. He was a known teetotaler and on that night was not known to have taken any alcohol. A friend of his observed that the dead man loved sleeping on his stomach. The

police broke into the house that was locked from inside and found the man dead while sleeping on his stomach with vomitus of food contents. There was no evidence of foul play or struggle. During post-mortem examination, the nail beds, conjunctiva and lips were bluish in color. Rigor mortis was present. No injury could be detected on the body. On internal examination, there was food contents found on the airway all the way to the bronchioles. Laryngeal mucosa was edematous and congested. All other organs were intact and congested with petechial hemorrhages found on the surface of heart and visceral pleura. Autopsy concluded choking as the cause of death due to obstruction of respiratory passage by stomach contents.

#### **CASE TWO:**

A 56-year-old man was pronounced dead at arrival at emergency department. During the day he had attended a birthday party for one of his friends in which he partook of food and locally brewed alcohol "*muratina*". This continued for several hours. Later in the evening he was dropped in his house by a friend where his wife received him. However, he sloughed on the couch and the wife thought he had slept as was the normal case after an outing. Shortly after he vomited, and he fell forward with a thud unconscious. They rushed him to hospital where he was pronounced dead. During postmortem examination he was obese with no injury either external or internal could be detected on his body. The nail beds and conjunctiva were cyanosed. Rigor mortis was present. A fair amount of partially digested food particles were found inside trachea, bronchus and bronchioles blocking the lumen. Similar type of food particles were found in stomach emitting strong smell of alcohol. All the internal organs were deeply congested. The

conclusion was death due to choking as a result of aspiration of stomach contents.

#### **DISCUSSION**

Obstruction of the respiratory passage can result due to several causes either mechanical or anatomical causes<sup>6</sup>. Mechanical obstruction may be due to foreign body or choking. Foreign body are agents like food, toys or coins while choking occurs when food materials are inhaled or stuck in the glottis<sup>2,6</sup>. Anatomical structures that can cause obstruction include the tongue, edematous tissues around the mouth or even may result due to injured neck structures<sup>6</sup>.

Choking deaths are seen in extremes of age but can occur at any age. 90% of the cases of choking in children occur under the age of 5 years<sup>3,9</sup>. As the children grow older aged 1 to 3 years, they are more vulnerable to choking as they are more active and at that age, they are experiencing with everything on sight<sup>9</sup>. At this age they also have a weak cough reflex<sup>10</sup>. The elderly too are commonly affected, and it is because at that age they are often afflicted with diseases that affect their memory e.g., dementia, Parkinson's disease which apart from affecting their memory also reduce their swallowing reflex<sup>5, 10</sup>. In normal adults, choking incidences mostly occur due to food, either while eating or shortly after overfeeding<sup>6, 8</sup>. Obesity, intoxication, ingestion of depressants and sleeping on the stomach has also been implicated as a risk factor<sup>6</sup>. Choking has been known to occur during rape or violent sexual intercourse after a heavy meal<sup>11</sup>. Aspiration of regurgitated vomitus into the lungs is commonly seen in acute alcoholics or during operations<sup>12</sup>.

## CONCLUSION

Choking incidences have not been published in our set-up. However, it is important to note that death to choking does occur and measures need to be taken to minimize cases. Adults should be advised against overeating and getting intoxicated as this can easily cause them to aspirate. Sleeping patterns are important for both adults and children whereas they are advised not to sleep on their stomach.

## REFERENCES

1. Nationwide Children's Hospital. "Choking is a leading cause of injury and death among children." *Science Daily*, 28 February 2010. <[www.sciencedaily.com/releases/2010/02/100226212559.htm](http://www.sciencedaily.com/releases/2010/02/100226212559.htm)
2. Rimell FL, Thome A, Stool S, et al. Characteristics of objects that cause choking in children. *JAMA*. 1995 Dec 13;274(22):1763-6
3. Choking is a leading cause of injury and death among children". *Science Daily*. Retrieved 2020-02-02.
4. Roya (May 2010). *Swallow Safely: How Swallowing Problems Threaten the Elderly and Others* (First ed.). Natick, MA: Inside/Outside Press. pp. 46–47. ISBN 9780981960128.
5. Kramarow Ellen; Warner Margaret; Chen Li-Hui (2014). "Food-related choking deaths among the elderly". *Injury Prevention*. 20 (3): 200–203. doi:10.1136/injuryprev-2013-040795. ISSN 1475-5785. PMID 24003082
6. Ross Darrell; Chan Theodore C (2006). *Sudden Deaths in Custody*. ISBN 978-1-59745-015-7
7. Salih AM, Alfaki M, Alam-Elhuda DM. Airway foreign bodies: A critical review for a common pediatric emergency. *World J Emerg Med*. 2016;7(1):5-12
8. National Safety Council. Research and Statistics Department. (2015). *Injury facts* (2015 ed.). Itasca, IL. ISBN 9780879123345. OCLC 910514461
9. Committee on Injury, Violence, and Poison Prevention. Prevention of choking among children. *Pediatrics*. 2010 Mar;125(3):601-7
10. Yadav S.P.; Singh, J.; Aggarwal N. et al (September 2007). "Airway foreign bodies in children: experience of 132 cases". *Singapore Medical Journal*. 48 (9): 850–853. ISSN 0037-5675. PMID 17728968
11. Michael J. Shkrum, David A. Ramsay“ *Text Book of Forensic Pathology of Trauma-Common Problems for the Pathologist*; 130-137.
12. DiBardino DM, Wunderink RG (February 2015). "Aspiration pneumonia: a review of modern trends". *Journal of Critical Care*. 30 (1): 40–47. doi:10.1016/j.jcrc.2014.07.011. PMID 25129577