

Retrospective Study of Management of Foreign Body Oesophagus in Adult Patients Attending a Tertiary Care Centre

Radheshyam Mahato¹, Manotosh Dutta²

¹Assistant Professor, Department of Otorhinolaryngology, North Bengal Medical College, West Bengal, India.

²Professor, Department of Otorhinolaryngology, North Bengal Medical College, West Bengal, India.

ABSTRACT

BACKGROUND

Foreign body in oesophagus is a common health problem. It is more common in children than adults. The patients present with history of ingestion of foreign body, difficulty in swallowing, pain in throat and neck and pooling of saliva. Sometimes they present with serious complications. Urgent intervention is necessary to prevent complications.

METHODS

This study was carried out in the department of Otorhinolaryngology of a tertiary care centre of North Bengal. Age of the patients, types of foreign bodies, sites of impactions, removal and complications were studied and outcomes were analyzed.

RESULTS

Total 83 patients were studied. There were 53 (63.85%) males and 30 (36.14%) females. Oldest patient was 88 years old and youngest patient was 18 years of age with a mean age of 44.54 years. Commonest foreign body was meat bone 35 (42.16%) followed by artificial denture 17 (20.48), chicken bone 10 (12.04%), fish bone 10 (12.04%), meat bolus 5 (6.02%) and safety pin 2 (2.4). 8 patients presented late with complications, retropharyngeal abscess 8 (9.63%), 2 of them died of septicemia (2.4%).

CONCLUSIONS

Foreign body in oesophagus is common in adults. Urgent oesophagoscopy and removal of foreign body should be done to avoid complications. Commonest foreign body was meat bone 35 (42.16%).

KEYWORDS

Foreign Body, Oesophagus, Adults, Urgent Oesophagoscopy

Corresponding Author:

*Dr. Radheshyam Mahato,
Advanced ENT Care,
Smaran Tower, 2nd Floor,
Burdwan Road, Siliguri- 734001,
West Bengal.*

*E-mail: rmahato@rediffmail.com
rsmahato14@gmail.com*

DOI: 10.18410/jebmh/2020/221

*Financial or Other Competing Interests:
None.*

How to Cite This Article:

Mahato R, Dutta M. Retrospective study of management of foreign body oesophagus in adult patients attending a tertiary care centre. J. Evid. Based Med. Healthc. 2020; 7(21), 1020-1023. DOI: 10.18410/jebmh/2020/221

*Submission 28-03-2020,
Peer Review 31-03-2020,
Acceptance 05-05-2020,
Published 20-05-2020.*



BACKGROUND

Foreign body in oesophagus is a common health problem. It is more common in children than adults.¹ Coins are most commonly seen lodged in the oesophagus of children and fish bones, meat bones, chicken bones and artificial dentures are common in adults. Matheson (1949) reported 29 cases of denture in oesophagus in adults in a review of 602 cases of foreign bodies in oesophagus.² Hussain et al reported in his study, coins (55.6%) were the commonest followed by meat bolus (20.75%), dentures (7.07%).³ Ingestion of an artificial denture is a challenging situation and needs early intervention. Delay in management can cause significant morbidity and even mortality.⁴ In elderly patients, especially with dementia, impacted dental prosthesis in esophagus can create serious problems.⁵ The patients present with history of ingestion of foreign body, difficulty in swallowing, pain in throat and neck and pooling of saliva. Sometimes they present with serious complications, like retropharyngeal abscess, perforation, septicaemia and even death.⁶ Urgent intervention is necessary to prevent complications.

Objectives

- To see the outcome of oesophageal foreign bodies removal under general anaesthesia.
- To see the commonest age group of foreign body impaction in adults.
- X-ray findings.
- To see the types of foreign bodies.
- To see the sites of foreign body impaction.
- To see the types of complications.

METHODS

This study was carried out in the department of otorhinolaryngology of a tertiary care centre of North Bengal. Hospital data from July 2014 to October 2019 were taken for the study. Outcome of oesophageal foreign bodies, the commonest age groups, X-ray findings, the type of foreign bodies, the sites of foreign body impaction and complications were studied and outcomes were analyzed. All the data were de-identified through irreversible coding. Category of risk is less than minimal risk.

Inclusion Criteria

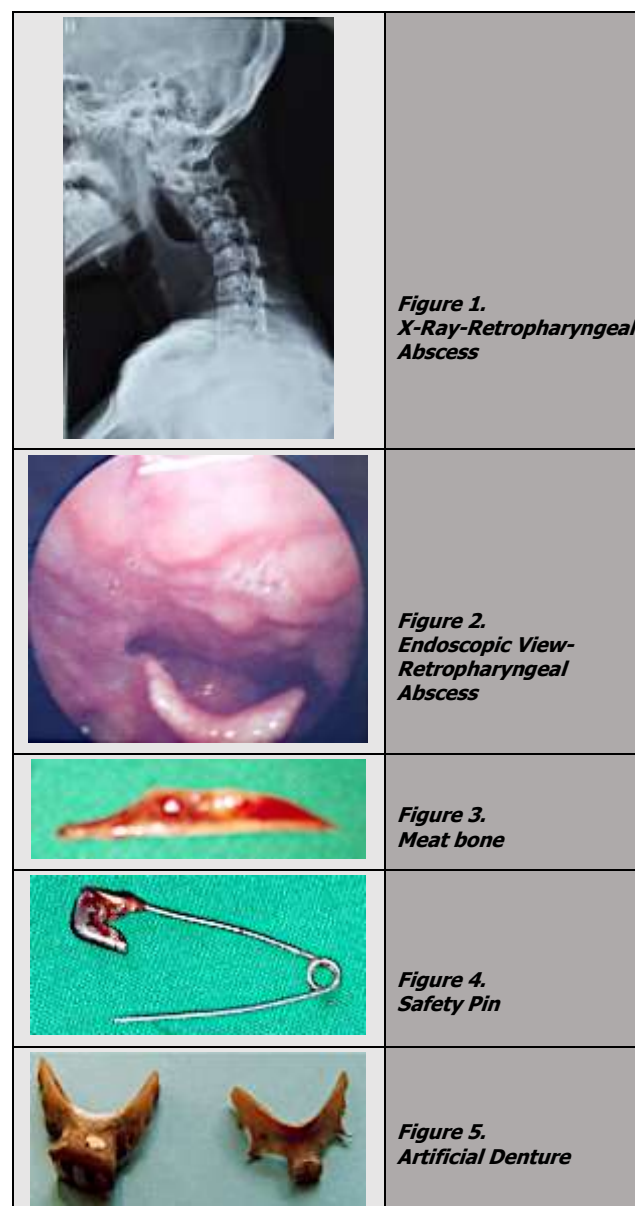
- Age more than 18 years.
- History of Foreign Bodies impactions, with or without positive radiological findings.
- Foreign Bodies impacted in oesophagus which needed intervention.

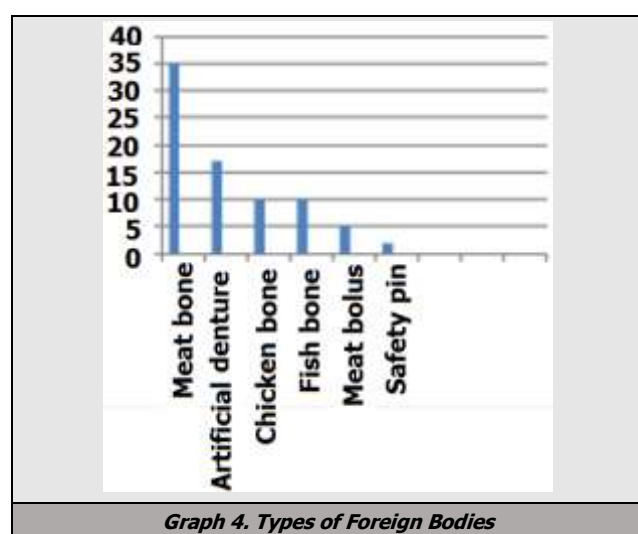
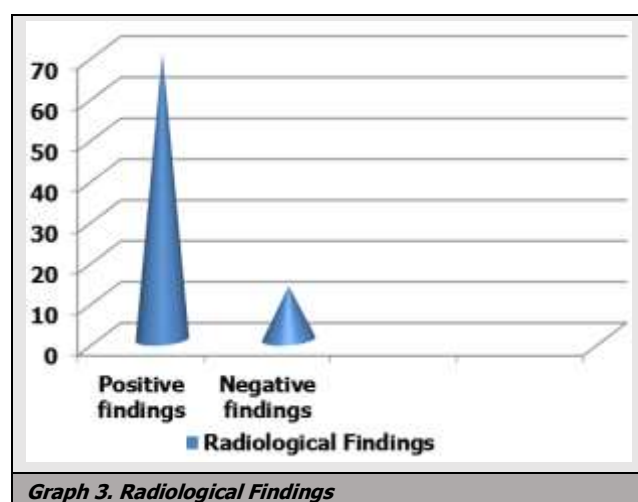
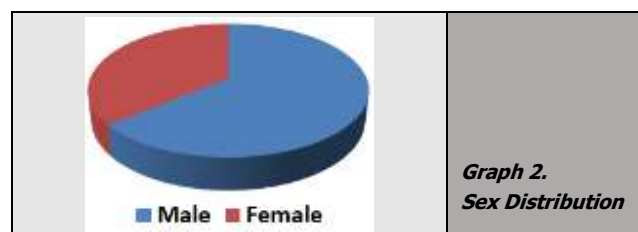
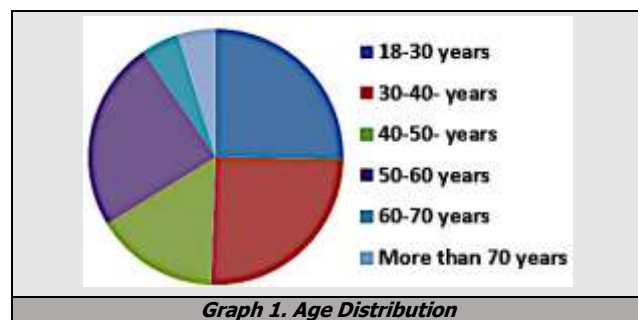
Exclusion Criteria

- Age less than 18 years.
- Foreign Bodies passed spontaneously.
- Foreign Bodies lodged in pyriform sinus and posterior pharyngeal wall.

RESULTS

Total 83 patients were studied. There were 53 (63.85%) males and 30 (36.14%) females. Oldest patient was 88 years old and youngest patient was 18 years of age with mean age 44.54 years (SD \pm 16.7). Symptoms like pain, foreign body sensation and difficulty in swallowing were present in 80 (96.38%) cases and absent in 3 (3.61%) cases. Pooling of saliva was present in 68 (81.92%) cases and absent in 15 (18.07%) cases. Radio opaque shadows were found in 70 (84.33%) cases and absent in 13 (15.66%) cases. Commonest foreign body was meat bone 35 (42.16%) followed by artificial denture 17 (20.48), Chicken bone 10 (12.04%), fish bone 10 (12.04%), meat bolus 5 (6.02%) and safety pin 2 (2.4). Foreign body impaction was present in upper part 49 (59.03%) cases, middle part 24 (28.91%) cases and lower part 10 (12.04%) cases. 8 (9.63%) patients presented late with complications, retropharyngeal abscess, 2 (2.4%) of them died of septicaemia.





DISCUSSION

Total 83 patients were studied. There were 53 (63.85%) males and 30 (36.14%) females. In our study there were male preponderance whereas Nadir A et al⁷ and Hurtado CW et al⁸ found equal sex distributions in their studies.

Oldest patient was 88 years old and youngest patient was 18 years of age with mean age 44.54 years (SD \pm 16.7). Okafor B C et al and Barakat A et al described that esophageal foreign bodies in the adult have a varied etiology as compared to children.^{9,10} Edentulous patients are likely to ingest a foreign body as they are unable to masticate properly and absent teeth sensation.

Symptoms like pain, foreign body sensation and difficulty in swallowing were present in 80 (96.38%) cases and absent in 3 (3.61%) cases. This is similar with the study of Sittitrai et al¹¹ and Brady PG.¹² Pooling of saliva was present in 68 (81.92%) cases and absent in 15 (18.07%) cases. Khan MA et al also found pooling of saliva in majority of cases.¹³

Radio opaque shadows were found in 70 (84.33%) cases and absent in 13 (15.66%) cases. Goh BK et al also described that radiography does not always reliably detect radiolucent foreign bodies, especially fish bones. Though fish bones are sufficiently radio opaque to be visualized on radiographs, large soft-tissue masses and fluid can obscure the minimal calcium content of the bone, particularly in obese patients.¹⁴

So, we performed esophagoscopy in all cases on the basis of history and clinical suspicion. Small fish bones and meat boluses do not show radio opaque shadow. Considering the discomfort, possibilities of complications we performed esophagoscopy in all patients within 24 hours of admission in the hospital. Webb W. A. and Longstreth GF et al performed emergency oesophagogastroduodenoscopy in cases with complete occlusion of the oesophagus, with pooling of saliva.^{15,16}

Commonest foreign body was meat bone 35 (42.16%) followed by artificial denture 17 (20.48), Chicken bone 10 (12.04%), fish bone 10 (12.04%), meat bolus 5 (6.02%) and safety pin 2 (2.4%). Accidental ingestion of food items meat bone, Chicken bone, fish bone and meat bolus were present in 60 (72.28%) cases. This is comparable with the study of Webb WA. Artificial dentures were present in 17 (20.48) cases. Use of artificial dentures has been increasing now days for better cosmetic appearance of face. Accidental ingestion of artificial dentures occurs very frequently.

Various options for management of oesophageal foreign body impaction are simple observations, pharmacotherapy, flexible endoscopy, rigid endoscopy, Foley's catheter removal, oesophageal bouginage and surgery. All of these methods have their own merits and demerits. Management options depend on personal preferences and experience of the surgeon and availability of facility. We used rigid oesophagoscopy in all cases under general anaesthesia with orotracheal intubation. Connors G P. agrees that rigid oesophagoscopy stands the most popular approach in dealing such cases.¹⁷ We removed foreign bodies in 82 (98.79%) cases. 1 (1.83%) cases with retropharyngeal abscess had per operative anaesthetic complications. We had to stop the procedure. We had to cut 1 artificial denture and removed in pieces. Meat boluses are very difficult to remove. Partially cooked and partially digested meat boluses are very difficult to hold. Repeated removal of very small

pieces was performed and the meat boluses were pushed in the stomach when these became small. 1 safety pin was removed easily and we faced difficulties while removing other case. The safety pin was embedded in granulations, we took time, removed the granulations in small pieces, safety pin was mobilized and removed. The patient was put on Ryle's tube feeding for 10 days. Cases with retropharyngeal abscesses were drained in the same sitting.

Foreign body impactions were more common in upper part 49 (59.03%) cases, followed by middle part 24 (28.91%) cases and lower part 10 (12.04%) cases. The frequency of foreign bodies in oesophagus in our study is similar to the findings of Nandi and Ong.¹⁸ Most of these were arrested at a distance few centimetres below the cricopharynx. This is due to the strong propulsive pharyngeal muscles force pushes the object in this region. 8(9.63%) patients presented late, referred by other centres with complications, retropharyngeal abscess, 2 (2.4%) of them died of septicaemia. Considering the risk of complications like aspiration, perforation and retropharyngeal abscess,^{19,20,21} we performed oesophagoscopy in all the cases and foreign body removal on emergency basis.

CONCLUSIONS

Foreign bodies in oesophagus in adults are less common than in children. Sharp foreign bodies are more common in adults and they easily penetrate the oesophagus and are more prone to complications. Meticulous assessment and urgent oesophagoscopy and early removal of foreign bodies should be done to avoid complications. Patients with retropharyngeal abscess should be managed carefully. During intubation care should be taken so that the abscess does not rupture. Preferably awake intubation or tracheostomy should be done.

ACKNOWLEDGEMENTS

Authors thank Prof. Prabir Deb, Principal, North Bengal Medical College, Prof. Koushik Samajdar, Medical Superintendent cum Vice Principal, North Bengal Medical College, Dr Subrata Mandal, Head, Department of Anaesthesiology, North Bengal Medical College and Dr. Kalyan Khan, Associate Professor, Department of Pathology and Convener, Medical Education Unit, North Bengal Medical College.

REFERENCES

- [1] Hachimi-Idrissi S, Come L, Vandepias Y. Management of ingested foreign bodies in childhood: our experience and review of the literature. *Eur J Emerg Med* 1998;5(3):319-323.
- [2] Matheson I. Foreign bodies in oesophagus (A review of six hundred and two cases). *J Laryng Otol* 1949;63:435.
- [3] Hussain G, Iqbal M, Ullah I, et al. Esophageal foreign bodies: an experience with rigid esophagoscope. *Gomal J Med Sci* 2010;8(2):218-220.
- [4] Stiles B, Wilson W, Bridges MA, et al. Denture esophageal impaction refractory to endoscopic removal in a psychiatric patient. *J Emerg Med* 2000;18(3):323-326.
- [5] Yadav R, Mahajan G, Mathur RM. Denture plate foreign body of esophagus. *Ind J Thorac Cardiovasc Surg* 2008;24:191-194.
- [6] Peng A, Li Y, Xiao Z, et al. Study of clinical treatment of esophageal foreign body-induced esophageal perforation with lethal complications. *Eur Arch Otorhinolaryngol* 2012;269(9):2027-2036.
- [7] Nadir A, Sahin E, Nadir I, et al. Esophageal foreign bodies: 177 cases. *Dis Esophagus* 2011;24(1):6-9.
- [8] Hurtado CW, Furuta GT, Kramer RE. Etiology of esophageal food impactions in children. *J Pediatr Gastroenterol Nutr* 2011;52(1):43-46.
- [9] Okafor BC. Foreign bodies in the pharynx and oesophagus. *Niger Med J* 1979;9(3):321-325.
- [10] Baraka A, Bikhazi G. Oesophageal foreign bodies. *Br Med J* 1975;1(5957):561-563.
- [11] Sittitrai P, Pattarasakulchai T, Tapatiwong H. Esophageal foreign bodies. *J Med Assoc Thai* 2000;83(12):1514-1518.
- [12] Brady PG. Esophageal foreign bodies. *Gastroenterol Clin North Am* 1991;20(4):691-701.
- [13] Khan MA, Hameed A, Choudhry AJ. Management of foreign bodies in the esophagus. *J Coll Physicians Surg Pak* 2004;14(4):218-220.
- [14] Goh BK, Tan YM, Lin SE, et al. CT in the preoperative diagnosis of fish bone perforation of the gastrointestinal tract. *AJR Am J Roentgenol* 2006;187(3):710-714.
- [15] Webb WA. Management of foreign bodies of the upper gastrointestinal tract: update. *Gastrointest Endosc* 1995;41(1):39-51.
- [16] Longstreth GF, Longstreth KJ, Yao JF. Esophageal food impaction: epidemiology and therapy. A retrospective, observational study. *Gastrointest Endosc* 2001;53(2):193-198.
- [17] Connors GP. A literature-based comparison of three methods of pediatric esophageal coin removal. *Pediatr Emerg Care* 1997;13(2):154-157.
- [18] Nandi P, Ong GB. Foreign bodies in the oesophagus: review of 2394 cases. *Br J Surg* 1978;65(1):5-9.
- [19] Uba AF, Sowande AO, Amusa YB, et al. Management of oesophageal foreign bodies in children. *East Afr Med J* 2002;79(6):334-338.
- [20] Lam HC, Woo JK, van Hasselt CA. Management of ingested foreign bodies: a retrospective review of 5240 patients. *J Laryngol Otol* 2001;115(12):954-957.
- [21] Kruk-Zagajewska A, Szmaja Z, Wójtowicz J, et al. Ciała obce w przelyku, Foreign bodies in the esophagus. *Otolaryngol Pol* 1999;53(3):283-288.