Journal of Natural Sciences Research www.iiste.org
ISSN 2224-3186 (Paper) ISSN 2225-0921 (Online)
Vol.2, No.4, 2012

Pattern of Foreign Bodies in the Throat

Awuah Peter Duah Issahalq Mohammed
School of Medical Sciences, Kwame Nkrumah University of Science and Technology, Kumasi –Ghana.

*E-mail: drawuah@yahoo.com

Abstract
A retrospective study from January, 2001to January 2011 of 345 patients with a diagnosis of foreign body (FB) in the throat were carried out at the department of ear, nose and throat (ENT), Komfo Anokye Teaching Hospital in Kumasi, Ghana. Therapeutic oesophagoscopy, direct pharyngoscopy under general anaesthesia and direct laryngoscopy were done on 210, 181 and 15 cases respectively. Six cases which developed complications were transferred to the cardiothoracic centre at Korle-Bu Teaching Hospital in Accra. Mortality rate was also low 0.7%). Early assessment and therapy of the disorder is imperative in order to prevent the loss of life.

1. Introduction

FBs in the throat are common problems encountered in ENT practice, in the **FB** obstruction of the oesophagus, young children appear to be most affected since they most often swallow metallic objects such as coins .non metallic objects and fish bones. Patients who have missing teeth may swallow a large food bolus because of incomplete mastication[1].
Some of the complications of oesophageal obstruction include, aspiration, abscess formation, haemorrhage , perforation which may lead to mediastinitis and fistula between oesophagus and aorta[2].
Again, aspiration of **FB**s is a common paediatric emergency which may be associated with high mortality[1]. Seeds, nuts, beads, bones, teeth, etc. are some of the **FB**s commonly inhaled. The incidence and type of inhaled **FB** are closely related to the nature of the environment in which the patient finds himself. A foreign body, once aspirated in the airway, causes a variable degree of respiratory obstruction and can cause immediate and late complications unless prompt measures are taken. We present in this paper, the types of **FB**s seen among patients in Ghana and our experience in managing them during a 10-year period (January, 2001 to January, 2011).

2. Materials and Methods

Retrospective cases of **FB** in the throat seen at ENT clinic at the Komfo Anokye Teaching Hospital were reviewed. The period under review was January, 2001 to January, 2011.
In all, a total of 142 patients, aged 6 months to 80 years were studied through a systematic sampling of out-patient records. The patients were referred directly from peripheral hospitals, district hospitals and general practitioners. Patients whose **FB**s were removed at the office (OPD) and those who reported directly through the main theatre were excluded.

3. Results

A total of 412 cases reporting at the department of ENT for emergency assistance from **FB**s in the throat were seen. Table 1 shows the types of impacted **FB** seen in the oesophagus.

4.1 Table 1.

Types of impacted FB in oesophagus.

	Number	%
Animals		
- Fish bones	170	44.6
- Meat bones	5	11.3
- Meat lumps	8	2
Plastic		
- Dentures	44	11.3
Metal		
- Coin	130	33.2
- Blade	1	0.26
- Sewing pin	19	4.9
- Nail	5	1.3
- Drawing pin	3	0.8
- Safety pin	6	1.5

4.2 Table 2.

Types of Inhaled FBs (21 cases).

Foreign body	Number	%
Fish bone and scales	9	42.8
Vegetable seeds	6	28.6
Metal cross	1	4.8
Buttons	5	23.9

In all, 391 cases were seen during the period under investigation. It can be observed that the **FBs** are from 3 main sources namely, animal, plastic and metallic objects. Observe that out of the 319 cases of **FB** in oesophagus, fish bones (170) coins (130) dentures (44) and sewing pins (19) are the most commonly occurring episodes. Table 2 presents various types of inhaled **FB**s. As can be seen, 21 cases were reported during the period. We do note that, fish bone and scales (9), vegetable seeds (6) and buttons (5) are the common types of inhaled **FB**s reported at the Komfo Anokye Teaching Hospital.

4.3 Table 3.

Site of lodgement of FB (412 cases).

Site	Number	%
Oesophagus		
-Hypopharynx	102	25
-1st narrow point	256	62
-2nd narrow point	21	5.1
-3rd narrow point	12	2.9
Larynx	15	3.6
Tracheobronchial tree	6	1.5

4.4 Table 4.

Operative procedures in the 412 cases

Procedure	Number	%
Direct pharyngoscopy	181	44
Direct laryngoscopy	15	3.4
Oesophagoscopy	210	5.1
Tracheostomy	6	1.5

Again, Table 3 displays the site of lodgement of **FB**s within the throat. It can be seen that of the **FB**s seen. 256 (62%) are lodged in the 1st narrow point, followed by hpopharynx 102 (25%), 2nd narrow point 21 (5.1%), larynx 15 (3.6%), 3rd narrow point 12 (2.9%) and tracheobronchial tree 6 (1.5%). Table 4 shows the various operative procedures used in treating the 412 cases of **FB**s seen. A cursory look at the table revealed that oesophagoscopy (210) and direct pharyngoscopy (181) are the produres of choice in removing **FBs** in the throat. Direct pharyngoscopy and tracheostomy were also utilized, but to a lesser extent. The majority of patients (387 patients, 94%) treated for impacted **FB** in the oesophagus had no complications (Table 5). As can be seen, 10 (2.4%) had retropharyngeal abscess 1 (0.2%) perforation and 3 ().7%) died.

4.5 Table 5.

Complications of FBs in the throat and larynx (412 cases)

Complication	Number	%
1. Retropharyngeal abscess	10	2.4
2. Oedema of the larynx	5	1.2
3. Tracheal compression	2	0.5
4. Septicaemia	2	0.5
5. Perforation of carotid artery	1	0.2
6. Stricture	2	0.5
7. Deaths	3	0.7
8. Uncomplicated	387	94

Perforation (1, 0.2%). Oesophageal perforation is lethal if untreated. In the case of distal perforation caused by swallowing a fish bone, management approach must be primary repair of the perforation butteressed with a pedicled omental graft pulled up through the oesphagus hiatus following a laparotomy. The main surgical procedures used in the management of FBs in the oesophagus are: oesophaguscopy (210 cases, 51%) and direct pharyngoscopy (181 cases, 44%). Chalkhouni et al and Sittitrai et al reported that rigid oesophagoscopy under general anaesthesia is regarded as the preferred method of removal of **FB**s in the oesophagus. Other methods such as fibre-optic flexible oesophagoscopy. Foley's catheter, digestive enzymes, glucacon, atropine, magnets and forceps have been employed successfully. While the hospital mortality rate reported in this study is low (0.7%), efforts must be made to educate the general public of the importance of early referral of these management regime can be fatal.

6. Discussion

FB obstruction of the oesophagus is one of the problems frequently encountered in ENT practice. Our study has shown that out of the 412 cases of **FB** in the throat, 391 were impacted in the oesophagus. We have also shown that fish bones and meat are the commonest **FB**s followed by coins. This agrees well with the published literature. The high frequency of fish bones noted in our study is probably due to the eating of slimy foods such as okro soup and stew which are common diets in Ghana. The increasing number of impacted coins in the oesophagus especially in children is probably due to the increase in the variety of denomination of coins.

Again, in the lower socio-economic strata, a common tendency is to pacify children by giving them coins which also contributed to the high incidence in this age group. We observed that 11.3% impacted **FB**s in the throat were due to dentures. Individuals with dentures are particularly vulnerable because of large areas of decreased sensation in the oral cavity[1].

We also found that fish bones, scales, vegetable seeds and buttons are the major types of inhaled **FB**s. **FB** inhalation is perhaps the commonest paediatric emergency in Ghana through the exact
rate of occurrence may never be known because many are not reported especially in rural communities. **FB** inhalation may be greatest cause of accidental death at home among young Ghanaian children. This may be due to in part to the unsafe rural or urban environment of the children who is frequently left in the care of older siblings or caregivers or accident prone day-nurseries. The vegetable **FB**s such as seeds as reported in this study tend to swell when wet and cause irritation of the bronchial mucosa, thus making bronchial obstruction complete. The oesophagus is the common site for the impacted **FB**s as evidenced in our study because it is a vulnerable site for the retention of swallowed materials because of narrowings of the cricopharyngeal muscle, at the level of the aorta and at the gastro-oesophageal junction.
Again, the lack of serosal layer in the oesophageal wall and its deep location in the thorax increase the potential for complications. However, the incidence of complications is low (9.1%). Most of the oesophageal **FB**s in this study were found in the hypopharynx and the 1st physiological narrow point of the oeophagus. In this stuy, the mortality rate was below 8%. This agrees with 9.1% complication reported by Chalkhouni, et al and is indicative of early recognition and referrals of emergencies. The commonest complication in our study was retropharyngeal abscess (10, 2.4%) followed by oedema of the larynx (5, 1.2%) general public of importance of early referral of these cases to the hospital since local management regime can be fetal.

7. Conclusion

This study has shown that fish bones and coins, dentures and sewing pins remain the commonest types of impacted **FB**s in the oesophagus . Fish bodies are common in adults and coins in children. Most of the **FBs** in our study are lodged in the 1st narrow point of the oesophagus(62%) and are removed by oesophgoscopy (51%) and direct pharyngoscopy (44%). The rate of complications (6%) as well as mortality (0.7%) is low. All cases of **FB**s in the throat must be brought to the hospital to prevent complications. All patients with suspected oesophageal obstruction should receive soft tissue radiography to detect radiopaque objects. Views should be obtained in both posterior-anterior and lateral projection because **FB**s may be obscured by the normal bony anatomy. Coins and other large objects tend to lodge at C7-T1.therefore; a special care should be taken to adequately visualize this area. A barium swallow should be done to confirm the diagnosis and localize the level of obstruction. It must be bone in mind that negative radiological findings do not rule out the possibility of a **FB** in the cricopharynx and oesophagus. Therefore, persistence of symptoms even in the absence of positive clinical or radiological signs warrant an endoscopic examination.

References

1. Cheng W. and Tam PK. Foreign body ingestion in children: Experiences with 1.265 cases. *J. Pediatr. Surg. 1999; 34(10): 1472-1476.*
2. Doman DB and Ginsberg AL. Foreign body obstruction of the esophagus. *Medical Times 1981-109(7):32-35.*
3. Anyawu CH. Foreign body airway obstruction in Nigeria children *J. Tropical Pediatrics 1985; 31:170-173.*
4. Giordano A. Adams G. Boies L. et al. Current management of esophageal foreign body. *Arch. Otolaryngol. 1981:107:249-251*
5. Nandi .P and Ong GB. Foreign bodies in esophagus: Review of 2394 cases. *British J. Surgery 1978;65:5-9*
6. Sittirai P. Pattarasakulchai T and Tapatiwong H. Esophageal foreign bodies. *J. Med. Assoc. Thai. 2000:83(12):1514-1518.*
7. Le Roux BT. Intrathoracic foreign bodies. *Thorax 1964; 19:203-217.*
8. Chal Khouni A. Kratz JM and Crawford FA. Foreign body in esophagus. *The American Surgeon 1985; pp.173-179.*
9. Nishinaki T. Ono K. Tada T and Hatakeyama K. Successful primary repair of esophageal perforation using pedicled omental graft through a transhiatal approach. *Dis. Esophagus 2001; 14(2):155-158.*

First A. Rev. Dr. P. Awuah is an Ear, Nose and Throat Consultant Surgeon in the Department of Ear, Eye, Nose & Throat of KATH. He holds BSc. (Human Biology) and MB ChB. in Medicine. He is a Senior Lecturer at Kwame Nkrumah University of Science and Technology. He is a member of West African College of Surgeons and also in Ghana. His area of sub-specialization is Otology of which he has conducted several researches.
Presently, he is the Head of Eye, Ear, Nose & Throat in the School of Medical Sciences, KNUST.
E-mail: drawuah@yahoo.com

Second A. I.M. Duah
Dr. Issahalq Mohammed Duah is a lecturer in the department of Eye, Ear, Nose and Throat, College of Health Sciences, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi. He holds MD (Medical Degree) from Dokuz Eylul University, Izmir- Turkey.
He is ENT Surgeon and Fellow of the West African College of Surgeons (FWACS). He received a professional degree in Project Design and Management from the Liverpool School of Tropical Medicine (Ghana). His research interest is in general Ear, Nose and Throat diseases and hearing health in particular.
E-mail: Issahalqm@yahoo.com

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:
http://www.iiste.org

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. **Prospective authors of IISTE journals can find the submission instruction on the following page:** http://www.iiste.org/Journals/

The IISTE editorial team promises to the review and publish all the qualified submissions in a fast manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar