

OESOPHAGEAL FOREIGN BODIES AND THEIR MANAGEMENT

Ghulam Muhammad, Islam Gul, Muahmad Hafeez, Sunia Arif

Department of ENT, Khyber Teaching Hospital, Peshawar - Pakistan

ABSTRACT

Objectives: To determine the type of foreign bodies in esophagus, pattern of symptoms, signs and their management techniques.

Material and Methods: First 50 consecutive cases of all ages with a definite or suspected history of foreign bodies ingestion were included in this study during May to November 2007. All the relevant information like age, sex, history, symptoms, signs, type of foreign bodies removed and complications if any during and after the procedure were recorded on a printed proforma.

Results: We managed 50 cases out of which 60% were male while 40% were female. Common symptoms were dysphagia, food refusal followed by vomiting. Foreign bodies were found in 100% cases, they were mainly metallic in nature. Coin was the commonest foreign body recovered in 52%. Crisco esophageal junction was the main site 70% followed by mid esophagus 20%. Most of the children were under the age of 10 years 58%, while 20% were those female having esophageal strictures (iron deficiency anemia) leading to foreign body enlargement. X-rays finding were positive in 80% of cases. Complications observed were recorded.

Conclusion: Most experience surgeon available should manage all cases of foreign body ingestion. Children less than 3 should not be allowed to play with coins, or other smaller object.

Key Words: Oesophagocopy foreign body, esophageal obstruction.

INTRODUCTION

It is not known exactly how much foreign body ingestion occur each year in the adult and pediatric population as much ingestion goes unnoticed and fortunately most foreign bodies pass uneventfully through the digestive tract¹. Only 10 to 20% will require endoscopic removal and less than 1% requires surgical intervention. The estimated annual incidence of body ingestion in the United States is 120 per million population with approximately 1500 deaths each year^{1,2}. The majority of foreign body ingestions occur in children between the ages of 6 month to 3 years³. In adults foreign body ingestion requiring medical intervention more commonly occurs among those with psychiatric disorders, mental retardation, impairment due to drug addiction, or those seeking some secondary gain with access to a medical facility⁴. Often multiple foreign bodies are ingested and repeat episodes are not uncommon. Adults with dentures and dental bridge work are at increased risk of accidental foreign body ingestion because of compromise of their tactile sensation during swallowing. The majority of patients presenting with

food bolus impaction have underlying esophageal pathology directly responsible for the impaction. Although mortality from foreign body ingestion is extremely low. Deaths have been reported⁵.

Impaction, perforation, or obstruction most often occurs at areas of acute angulations or physiologic narrowing. Commonest site for Oesophageal foreign bodies is Cricopharyngeus 70% next site is where aorta crosses the anteromedial wall of oesophagus 20% and third common site is gastro-esophageal junction³. Esophageal food bolus impaction may be the presenting symptom in patients with schatzki's ring, peptic stricture, cancer. Once through the esophagus, the majority of ingested foreign bodies pass through the alimentary tract. Including sharp-pointed objects⁶. However, the risk of perforation is higher when sharp or pointed metallic objects, animal or fish bones, or toothpicks are ingested.

Most parents bring the child with a definite history of ingestion and with the immediate symptoms and signs like dysphagia, food refusal, vomiting, abdominal pain, cough, foreign body sensation drooling of saliva, erythematous throat, crying, palpable foreign body or even airway abstraction. Early endoscopic removal is preferred. However in some cases acute episode most have been forgotten by the parents and there may be anorexia, irritability, poor sleep, drooling and having no response to response to medical treatment, which may need diagnostic endoscopy for foreign body.

Address for Correspondence:

Dr. Ghulam Muhammad

Junior Registrar

Department of ENT, Khyber Teaching Hospital,

Peshawar - Pakistan

Cell: 0333-5720152

Email: gm28376@yahoo.com

The presence of symptoms is significantly associated with oesophageal foreign bodies, but the absence of symptoms does not reliably exclude the possibility of an oesophageal foreign body. So radiological studies especially swimmers view to exclude clavical shadow.

The types of materials that can lodge in the gastrointestinal tract can be classified into two groups: food bolus impactions, and true foreign bodies. True foreign bodies can be further divided into blunt objects (e.g buttons, coins), sharp-pointed objects (e.g bones, toothpicks, nails, dental bridge work), and miscellaneous (e.g disk batteries, narcotic packets), determining the classification of the ingested material along with knowing its characteristics is essential to proper diagnosis and management⁸.

To remove foreign bodies Oesophagus the common procedures are fiber optic endoscopy and rigid endoscopy and less popular techniques are catheter removal and bouginization. While some people adapt special procedure in accordance with the nature of foreign body. Major complications are oesophageal perforation and deep neck abscesses. In this study literature has been reviewed. importance has been given to the type of foreign bodies recovered from oesophagus, their presenting signs and symptoms and their management. I have also tried to find out the factors associated with delayed diagnosis of foreign body as time lapse leads to serious complications. In this effort results were compared with different national and international studies. At the end I have put forward some suggestion based on my study, if acted upon the mortality could be reduced for this common and preventable emergency^{9,10,11}.

MATERIAL AND METHODS

All these patients were admitted to the ENT unit of Khyber Teaching Hospital. Age, sex, history, conical examination and investigation were taken in to the account and proper work up was done. In the history, type of foreign bodies ingested duration of ingestion and admission to the hospital were asked about from, the patients or/and relatives. They were asked about vomiting dysphagia and other related complaints of foreign ingestion.

Routine investigations like hemoglobin concentration in percentage, bleeding time, clotting time and urine routine investigation were always performed. Blood screening was done before the start of the procedure. Even in cases of acute emergency blood samples were taken for screening and the instruments were placed in isolation after use, till the report of the screening were available due to the fear of hepatitis spread.

X-ray chest anteroposterior and lateral view were obtained to see the foreign body itself or any radiological changes due to the presence of foreign body like emphysema or perforation. Afresh X-ray was always obtained before the start of the procedure. All this information were collected and recorded on the given proforma, the was completed in time in most of the cases: however in acute emergencies where the patients were in severer problem it could be completed in time. Senior available surgeon and anesthetist performed all the oesophagoscopies. Rigid oesophagos scopes of different sizes were used in all cases according to the age and size of the patients.

Different types of foreign bodies were removed. Coin was the most commonly removed objects. Other foreign bodies like fruit seeds, meat bolus and chicken bones were also removed different types of forceps were used of foreign body removal. Most of the foreign bodies were removed from the upper 1/3 of oesophagus, Complications like surg, emphysema, or preformation of oesophagus were noted on X-rays. Antibiotics and steroids were given during and after the procedure in selected cases. Surgical emphysema was noticed in one case after foreign body removal. Surgical emphysema was treated conservatively: most of the patients were discharged next morning, while few patents were retained for another few days in the hospital.

RESULTS

In this study total of 50 patients were managed for foreign body oesophagus from the 3rd week of May 2007 to the 3rd week of November 2007 (6 months duration) with in the ENT Department of Khyber Teaching Hospital, Peshawar. Among these cases 35(70%) were referred form casualty: 14 cases (28%) were admitted referred from the children ward. Among the patients 27(54%) were under 10 years of age, 9(18%) patients were between 11-30 yrsrs, 12(24%) were between 31-50 years while only 2(4%) were above 50 years of age.

Thirty (60%) cases were male while 20 cases (40%) were female. 42(84%) patients were with definite while other 5(10%) cases were with doubtful history and only 3(6%) cases were having no history of foreign ingestion. The commonest symptoms were vomiting in 10(20%) cases, odynophagea in 8(16%) cases, drooling of saliva in 7(14%) cases and dysphagea in 6(12%) cases white rest of the 19(38%) patients were having no symptoms, regarding the signs of esophageal foreign bodies 43(86%) cases were having no clinical signs: only 7(14%) cases were having in the cervical region.

Forty six (92%) patients presented within the first 24 hours and 3(6%) patients with in the next 7 days

while only one patient (2%) was received after a time lapse of more than a week. Foreign bodies were seen radiologically in 31 (62%) cases while in 29 (58%) cases foreign bodies were radiolucent. Metallic foreign bodies were encountered mainly. Coin was in 26 (56%) cases, followed by Meat bolus in 10 (20%) cases and chicken bones in 10 (20%) cases and chicken bones in 6 (12%) cases, while fruit seeds and other metals i.e, paper pin were in equal number 2 (4%) each. Fish bones were removed in 3 (6%) cases.

Foreign bodies were removed mainly from the upper 1/3rd of esophagus 35 (70%) cases, while (20%) it was removed from the Middle 1/3rd of esophagus and only 5 cases (10%) were having foreign bodies at the lower 1/3rd of esophagus. Laryngoscope and Magill forceps were used in 01 (16%) cases while in 40 (80%) cases rigid esophagoscopy was performed and only 02 (4%) cases were referred for flexible endoscopy.

Emergency esophagoscopies were performed immediately in 20 cases (40%) while in the remaining 30 cases (60%). Routine esophagoscopies were performed on the next day. During the procedure hemorrhage was noted in 10 (20%) patients in two (4%) cases in one case surgical emphysema was noted post operatively while only 01 (2%) patient went into cardiac arrest who was arrested who was resuscitated successfully.

DISCUSSION

Foreign body ingestion is a common problem in children and is considered an acute emergency. It requires prompt diagnosis and early treatment to minimize the potentially serious and some times even fatal consequences. The case should be handed by senior surgeon, senior anesthetist, and trained assistants. However in the absence of ideal situation, one should proceed according to the best available resources with due attention^{1,3,9}. Material retained in the esophagus generally fall into two categories: foreign body and food bolus. Children most often ingest coins and toys, whereas adults commonly tend to have problems with meat and bone. Preexisting physical or mental conditions predispose patients to esophageal impaction.^{83,84,85,86}

Positive history of foreign body ingestion by the patient or attendant is the most important clue, which is usually followed by acute onset of symptom like vomiting, dysphagia, drooling, of saliva and foreign body sensations in the esophagus and cervical region in international studies almost 60% of the patients are diagnosed on history alone, while in the study 42 cases (84%) were with positive. History, vomiting, odynophagia and drooling of saliva were the commonest symptoms in our study^{15,1}.

The role of X-ray in detecting the foreign body presence in the esophagus is limited to radio-opaque objects like (metals, \pm bones, stones etc.) however complications due to foreign body like surgical emphysema and perforation can be detected on radiograph^{6,12,14,16} moreover in some cases wandering foreign body like needle or a small coin can be traced out before esophagus copy. In our study thirty one (62%) radio opaque foreign body were found: twenty six cases (52%) coin, three cases (6%) of dentures, one case (2%) metallic paper pin and one case (2%) of chicken bone while rest of the 19 cases (38%) were radiolucent. However it is known that negative images does not exclude the presence of foreign bodies. So was the case here and foreign bodies were removed by esophagus copies in spite of the normal chest X-rays. According to the international study 60 to 80% of the esophageal foreign bodies are radio opaque results ranging from 6.5 to 30%.

CONCLUSION

All cases of foreign bodies ingestion should be dealt by experienced available surgeon with the help of anesthetic and pediatrician. Emergency and tracheostomy trolley should be at hand in case of positive history and clinical signs and symptoms, no time should be wasted even if X-ray finding are negative.

RECOMMENDATION

Children less than 3 years should not be allowed to eat and play with coins or other small objects. Talking, laughing and running should be discouraged during eating. Children should be kept under watch while eating as much as possible. Parents, teachers, nurses and other health care personnel should be educated about signs and symptoms and First Aid maneuver.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

Muhammd G: Creation of idea and operating surgeon

Gul I: Data collection and data analysis.

Hafeez M: Operating surgeon and statistics.

Arif S: Data collection and statistics.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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