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FOREIGN BODIES IN OESOPHAGUS AND THEIR MANAGEMENT IN TERTIARY CENTRE

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ABSTRACT

INTRODUCTION- Foreign body ingestion is widespread, particularly in the paediatric age range, but in adults, it is more likely in alcoholics, convicts, and individuals with psychiatric illnesses or mental retardation. Thankfully, the majority of these enter the gastrointestinal system without causing any harm. That being said, just 1% or fewer will require surgery, and 10–20% will require nonoperative treatments.

AIM – To study, about different types of procedures for different type of foreign bodies removal from oesophagus.

METHODOLOGY – Cases of foreign body in esophagus, a detailed history, investigation and management of patients, complications, and length of hospitalization.

RESULTS – Foreign body removal through different types of procedure like through laryngoscopy, esophagoscopy and esophagostomy and Ryle's tube feeding for ≥ 21 days after esophagostomy then allowed semisolid diet orally.

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CONCLUSIONS - The presence of a foreign body in the esophagus is a challenging problem. Impaction mandates immediate extraction.

Key words – Laryngoscopy, Esophagoscopy, Esophagotomy, Foreign body, Ryles tube.

INTRODUCTION

Ingestion of foreign bodies is a frequently occurring clinical condition in individuals with mental retardation diseases, whether they are children or adults. Because they are naturally curious, children have a tendency to put any small toys or metallic coins. Consequently, children make up the bulk of patients with suspected foreign bodies.The presence of a foreign body in the oesophagus is a challenging problem. One third of foreign bodies retained in the gastrointestinal tract are present in the esophagus [1,2]. Their management depends on the anatomic location, shape and size of the foreign body, and duration of impaction. Foreign body retained in the esophagus are by far the most dangerous. If perforations occurs and may result in death. Extraction of the foreign body as soon as diagnosed is, therefore mandatory. However, the best method of extraction of an esophageal foreign body remains controversial. Over the past decade, the flexible fiberoptic endoscope has gained great popularity, mainly owing to its safety. The rigid esophagoscope is equally safe and effective in the hands of an experienced surgeon [3-5], however, and in most instances, the particular instrument is chosen on the base of the surgeon's experience. In recent years, there were reports of the flexible instrument adversely affecting outcome of the procedure, until replaced with the rigid endoscope [6, 7]. Esophagostomy was required in impacted foreign body.

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Therefore, the present study was undertaken to study about different types of procedures for different type of foreign bodies removal from oesophagus in patients attending a tertiary care centre.

ETIOLOGY

While a wide variety of objects could be ingested, common accidental esophageal foreign bodyingestions include coins, food bolus (mostly meat), fish or chicken bones, dentures, toy like whistle, alpin, battery and small metallic lock. Different places and cultures consume different kinds of objects. For example, in Jharkhand coins were the most common esophageal foreign body impaction in children and meat bone and denture in adult.

PATIENTS AND METHODS

The main symptoms related to esophageal foreign bodies are acute onset of pain throat, difficulty in swallowing, dysphagia, choking and excessive salivation. The most common site of impaction is at or above the level of the cricopharyngeus muscle, followed by the other areas of anatomical narrowing or congenital stricture. [8,9].

The three-year assessment of our experience treating foreign bodies in the esophagus is included in the paper.

To identify the foreign body and its location, in addition to taking a medical history and physical examination, radiographs of the chest and cervical region in antero-posterior and lateral views should be taken.

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In the majority of patients, the plain chest or cervicalradiograph is helpful for the diagnosis. If radiographs do not successfully locate a foreign body, an esophagogram with barium or gastrograffin should not be performed due to the risk of aspiration [8].

For patients with ingestion histories whohad negative radiological finding, computed tomography (CT) should be performed. CT has been shown to be mostsensitive for localizing foreign bodies and provides more benefit to other diagnostic modalities in locating additionalcomplications, such as perforation and vascular-esophageal fistulas [10].

Although rupture of the esophagus is more likely due to prolonged impaction of the foreign body, it may also occurimmediately after a sharp object has embedded the esophageal mucosa. Thus, mediastinitis or other life-threatening complications can occur if not immediately treated. [8],[11]

RESULTS

In the present study there were 106 cases, the foreign bodies were present in the esophagus (Table 1). Of these, 79 were retained at the Cervicaloesophagus, 24 in the thoracic esophagus, and 3 at the lower esophagealsphincter. In the current study it was observed that there were 64 male and 42 female patients between 18 months and 82 years of age, among them were73 children aged from 9 months to 11 years.

Table 1. Foreign Bodies in the oesophagus

Foreign Body	**Number of Cases**

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Meat, chicken bone, glass piece, (all adults)	**18**
Cervical oesophagus	5
Thoracic esophagus	13
Coins (children, aged 18 months to 11 years)	**80**
Cervical oesophagus	66
Thoracic/ middle oesophagus	11
Distal esophagus	3
Dentures	**4**
Impacted in cervical esophagus	4
Safety pin	**1**
Impacted in cervical esophagus	1
Whistle	**1**
Above the cricopharynx	1
Mettalic lock	**1**
Cervical oesophagus	1
Battery	**1**
Cervical oesophagus	1
Total	***106***

PICTURES OF FOREIGN BODY

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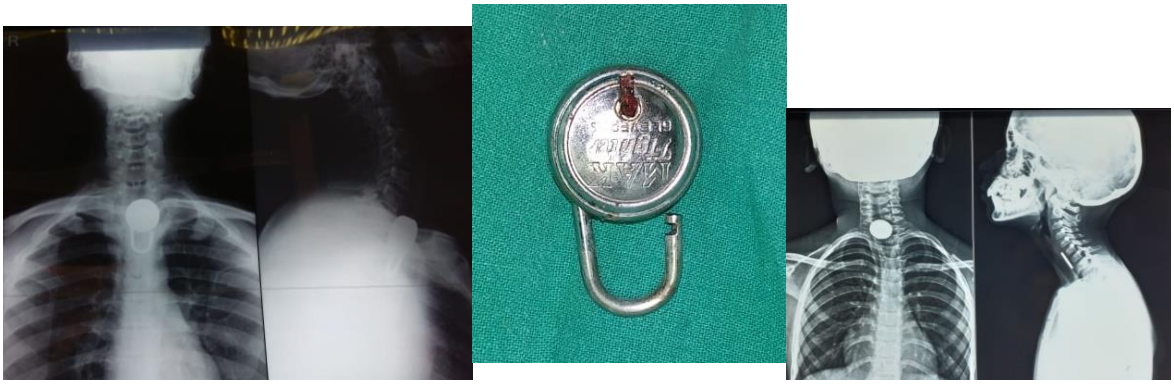

There were distribution of foreign body at different location in oesophagus summarized in table – 01. The length of retention in the esophagus ranged from 4 hours to 6 days (mean, 16hours). All patients were managed in the department of ENT & HNS RIMS. 98 of the foreign bodies had been extracted through hoesophagoscopy and laryngoscopy, using the rigid instrument, all within 6 – 18 hours of admission. The length of retention in theesophagus was considerably longer, however, and lastedfrom 4 hours to 6 days because of delays in seeking medical attention.

All cases of esophagial foreign bodies removed through esophagoscopy except three cases , of these two denture impaction and one case of metallic lock which had removed through cervical esophagostomy.

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One patient 50 yrs male accidentally swallowed foreign body denture and undergo impaction and was admitted and work-up for foreign body removal.

Second patient 48 yrs male accidently swallowed foreign body but patient was unknown about denture due to alcohol intoxication,and give history as he was eating pakauda and wire present in it, but known about denture during esophagoscopy.

Third patient 21yrs male had psychiatric illness and swallowed metallic lock and undergo impaction.

All three patient under general anaesthesia rigid esophagoscopy was done and attempt to remove but failed then decided to doing esophagostomy through left sided collar incision. Slowly dissected and reached to cervical oesophagus at the level of impacted foreign body and removed cautiously through incision given in oesophagus to prevent tear/ laceration in oesophagus. Ryles tube inserted intraoperatively for prevention of false entry through incision given in oesophagus and is left for 21 days for complete healing of esophageal wound. Suction drain was placed and Wound was closed in layer and dressing was done.

Two of these admitted for 21 days and feeding through ryles tubeand one patient has leaked in 14 days and again required exploration and remain admitted for 5 weeks.

One patient 7 yrs female child had swallowed accidently disc battery impacted in the esophagus and is removed through esophagoscopy.

DISCUSSION

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Historically, the initial method of management of esophageal foreign bodies was extraction through the rigid esophagoscope. Certain foreign body types appear to be more common in particular patient groups. Toys and coins are quite common items found in children [13-15]. In 1966 Bigler [16] reported on a new technique, using a Foley catheter, and in the 1970s and 1980s, the flexible fiberoptic instrument became an option. The Foley catheter has been used for extraction of large, radio-opaque foreignbodies, but is of no use in the majority of instances. At present, the flexible and rigid endoscopy remain the two universally applicable methods. The success rate with the use of rigid instrument ranges between 94% and 100% [5, 17, 18]. The estimated incidence of esophageal perforation is 0.34% with a 0.05% mortality rate [4]. The success rate with the flexible esophagoscopy ranges between 76% and 98.5% [17, 19, 20], and the morbidity (perforation) rate between 0% and 0.5% [17, 19, 21, 22]. While these success and morbidity rates are similar, the flexible endoscope is newer, and thus more attractive, particularly to those physicians trained in its use, but with no training or experience in the rigid esophagoscopy. We always use the rigid esophagoscope and a variety of forceps. The wide lumen of the rigid instrument is of great help in manipulating the foreign body and extracting it, and we believe that this should be the instrument of choice [23]. This idea is not isolated and has been suggested by several authors [24, 25, 26].

Complications related with esophageal foreign bodies have a high mortality rate (20%). Esophageal wall perforation ormigration of an esophageal foreign body through the esophageal wall can result in life-threatening complications such as cervical abscess, mediastinitis, retropharyngeal or parapharyngeal abscesses, esophageal-tracheal fistula and esophageal-vascular fistulas [10],[12]. If life-threatening hemorrhage or perforation is evident, urgent surgical

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intervention should beperformed to retrieve a foreign body and to repair any vascular-esophageal fistula or esophageal perforation leading tosevere complications or evendeath [10].

In our hospital Patient had swallowed accidently disc battery impacted in the esophagus and is a true emergency and needs immediate removal. The greatest concern is the potentially fatal complication of an aorto-esophageal fistula with the highest risk in children less than seven years old, battery size 20 mm or greater, impaction at the aortic arch level, prolonged impact, and any degree of hematemesis. In these specific cases, an interprofessional approach potentially including pediatric gastroenterology, pediatric surgery, cardiothoracic surgery, anaesthesia, and radiology with management in the operating room or cardiac catheterization in lab may be indicated.

CONCLUSIONS

There is an apparent predominance of certain types offoreign bodies in specific groups of patients. Coins andtoys are a relatively common finding in children. Metallic lock was swallowed by a psychopathic personality, However, this resulted in increased friction, andthe lock was retained in the esophagus. It is attractive toassume that emergence of typical groups predisposed toswallowing certain types of foreign bodies might helpprevent such accidents. Unfortunately, it is not easy toprevent psychotics and ingesting anyobject that can be swallowed. It is likely, therefore, that the problem of foreign bodieswill remain in the interest of treatment rather than prevention.Impaction of a foreign body in the esophagus causesedema of the mucosa, and the esophageal wall becomesweakened when remain impacted for a long periods. Retention leads to perforation, which is only amatter of time. Therefore, all foreign bodies retained in the esophagus should be removed as soon asdiagnosed. The choice of extraction at esophagoscopy or through hesophagotomy

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depends on the feasibility and safety ofremoval at esophagoscopy. We faced this dilemma on three occasions. Four male patient whose denture remained impacted in the esophagus for 2- 6 days, two of which removed through esophagoscopy and two had failed which undergo esophagotomy. One male patient of lockremained impacted in the esophagus for 3 days which was removed through esophagotomy. They were under our care early in our experience.

In planning the removal, one of the important pointsto considered is the proper choice of the instruments. This is particularly important in the case of sharp andpointed foreign bodies, such as denture with protrudinghooks, metallic lock, and open safety pins, whichincrease the danger of perforation. Removal of theseobjects requires special attention and experience. Somemay have to be drawn, sometimes only partially, into thelumen of the rigid esophagoscope, to enable their manipulation and extraction while protecting the esophageal mucosa. This protection is not possible with theflexible instrument.

Clinical sequelae of impacted esophageal foreign bodies depend on the characteristics of the foreign bodies and the duration of impaction. The timely diagnosis and esophagoscopic removal should be performed to prevent severe complications leading to death. Although esophagoscopic removal of esophageal foreign bodies in patients presenting early is invariably successful, chronically embedded foreign bodies may necessitate surgical intervention.

It t is essential for public and health care awareness campaigns for education about the hazards of EFBs to avoid ingesting foreign bodies by mistake [27,28].

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Unusual or recurrent foreign body ingestion should prompt consideration of psychosocial concerns and an evaluation by a mental health professional. Foreign body ingestion may be risk-taking or attention-seeking behavior. Abuse or neglect may be present [29].

Thus, all esophageal foreign bodies should be removed as soon as diagnosed to minimize the risk of severe complications.

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4. Patient's specific written consent was obtained prior to diagnostic and therapeutic procedures.

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