

MANAGEMENT OF ROUND OESOPHAGEAL FOREIGN BODIES

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INTRODUCTON

Foreign bodies in the oesophagus are a common presentation in young children and the older age groups. The American Association of Poison Control Centers once documented that 75% of the >116,000 ingestions reported were in children less than 5 years of age. ¹The factors predisposing towards a higher incidence of swallowed foreign bodies in children are their natural propensity to gain knowledge by putting things in their mouth and inadequate control of deglutination as well as tendency to cry, cough or play during eating. ²

Oesophageal foreign bodies are asymptomatic in up to 35% of paediatric patients. ²Depending on its position and make up, foreign bodies in the oesophagus present with a variety of symptoms. Upper oesophageal foreign bodies produce dysphagia and suprasternal pain on swallowing. ³With more distal foreign bodies, presentation becomes vague and orientation and level may not be describable. Foreign bodies that remain lodged in the oesophagus lead to persistent pain. Large objects can obstruct the oesophagus causing regurgitation of any swallowed liquid including saliva. ⁴ Dyspnoea occurs in a few due to external compression of the trachea.

In most instances postero-anterior and lateral neck films from the skull base to thoracic inlet are used to visualize radio-opaque foreign bodies. ⁵ Increase in the distance between the cervical vertebra and the trachea or air in the cervical oesophagus help in identifying non radiopaque objects. Computed Tomography(CT) scan of the neck and thorax is useful for diagnosing very small radiodense foreign bodies. ^{6,7}

This study focuses specifically on rounded foreign bodies. The objective of this study is to study the benefits of using Fogarty's catheter in removal of rounded foreign bodies from the esophagus without fluoroscopic guidance.

MATERIAL AND METHODS

This is a retrospective study which included 40 patients (22 males and 18 females). Sixty Five percent patients belonged to pediatric age group. The majority of our patients had a clear history and symptoms of foreign body (FB) ingestion. Witness history was present in most of pediatric patients. Only 5% showed delayed onset of symptoms. Patients mostly presented with difficulty in swallowing, acute onset of pain, excessive salivation and regurgitation of feed. Physical examination including oropharynx, hypopharynx and abdominal examination (for evidence of peritonitis or small bowel obstruction) were the initial diagnostic tools. Lateral and postero-anterior x-rays of the oropharynx, neck, chest and, when indicated, the

abdomen were performed in all patients. In case of radiolucent foreign bodies esophagogram with barium or gastrograffin was done.

Sex	Number	Percentage (%)
Male	22	55
Female	18	45

	Number	Percentage (%)
Adult	14	35
Pediatric	26	65

About 70% of foreign bodies were found in cervical esophagus, 25% in thoracic esophagus and 15% in cardioesophageal junction.

Location	Number	Percentage (%)
Cervical esophagus	28	70
Thoracic esophagus	10	25
Cardioesophageal junction	2	5

Foreign bodies extracted were rounded foreign bodies of variable sizes as stones, ayurvedic hard tablets, silver balls, marbles, blackberry seeds, wooden beads, plastic beads and rounded buttons.

Type of foreign body	Number	Percentage (%)
Stone	2	5
Ayurvedic tablet	4	10
marble	6	15
Silver balls	2	5
Blackberry seeds	14	35
Wooden beads	2	5
Plastic beads	7	17.5
Rounded buttons	3	7.5

Initial attempts for foreignbody removal were carried out with conventional foreign body forceps. If we were unable to grasp these foreign bodies with forceps then Fogarty embolectomy catheter was passed between the foreign body and the esophageal wall, the balloon was inflated, and the foreign body was dislodged and removed. A few foreign bodies which could not be negotiated either way were pushed into the stomach.

RESULT

Out of the 40 round foreign bodies encountered only 6 could be removed with the help of conventional forceps. Due to failure to grasp remaining with conventional forceps alternate methods were tried. Thirty round foreign bodies were removed successfully using Fogarty's

catheter and the rest were pushed into stomach. None of them required any open surgery like thoracotomy or gastrostomy.

DISCUSSION

Ingestion of foreign bodies is common especially among the pediatric age group, whereas in adults, it occurs more commonly among those with psychiatric disorders, or mental retardation, prisoners and alcoholics.⁸The peak age in children is between six months and three years. The most frequently swallowed foreign bodies in children include coins, safety pins, and toy parts.

Since the muscular activity of the upper portion of the oesophagus is weak as compared with pharyngeal musculature, foreign bodies are propelled in the hypopharynx and are more likely to lodge in the cricopharynx. The next most common site is just above the gastro-oesophageal junction. Failure in identification and management of such foreign bodies results in complications like erosion, perforation, retropharyngeal abscess and pulmonary complications.⁹ Fortunately, most of them pass through the gastrointestinal (GI) tract harmlessly. However, 10–20% will require non-operative intervention and only 1% or less surgery.¹⁰

Besides anamnesis and physical examination, radiology is a very important diagnostic tool to identify the foreign body and its location.⁶ After the diagnosis of a foreign body in GI tract is made, the further management depends on the clinical judgement of the treating physician depending on the degree of urgency and the best available means. The timing depends on the increased risk of perforation, aspiration or aorto-oesophageal fistula.¹⁰ The choice of treatment is influenced by many factors, such as the patient's age and clinical condition; the size and shape of the ingested foreign body; the anatomic location and the skills of the physician.¹¹

Many alternative therapeutic methods have been described in the literature, dislodgment by a Foley catheter, advancement with bougie, papain or carbonated fluid treatment, glucagon therapy, balloon extraction during fluoroscopy, removal using a magnet.^{12,13}

The rounded solid foreign bodies are not easily grasped with conventional forceps. Fogarty's method is certainly easier with metallic objects and other foreign bodies of more solid consistency.¹⁴ Fogarty's catheter is preferred over Foley's as they are less flexible or floppy than Foley's catheter. One is able to pass a Fogarty where a Foley fails. Fogarty catheter is also of sufficient length to be passed through an oesophagoscope.

The main critical concern about Fogarty's catheter removal of esophageal foreign bodies was safety, because it carries certain blindness, resulting in esophageal perforation and airway compromise. However, the incidence of all complications of Foley catheter removal of round foreign bodies has been consistently low in all published series and none in our study. But it is recommended that this technique is only attempted when obstruction is incomplete. It is more successful when duration of impaction is less than three days.¹⁵

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