

## Clinicoepidemiological Study of Foreign Bodies in Aerodigestive Tract

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### **ABSTRACT**

Foreign body ingestion and aspiration are common occurrence for otorhinolaryngologists. Foreign bodies like coin, peanut, batteries, dentures etc are seen in almost all age groups and poses a challenge for the ENT surgeon. The present study was conducted retrospectively in 72 patients of foreign body aerodigestive tract in PMCH, Udaipur from March 2017 till March 2019. The strong clinical suspicion, timely management and early diagnosis are the keys to successful foreign body retrieval. All foreign bodies do not necessarily present as emergencies but some can be life threatening hence appropriate radiological imaging followed by timely intervention can reduce the mortality.

**Keywords :** Aerodigestive tract . Coin . Foreign body. Supari

### **INTRODUCTION**

The foreign bodies are quite common in otorhinolaryngologist practice. The aerodigestive tract foreign bodies contribute significant percentage among all the foreign bodies presenting to ENT Surgeon. It is ranked as 3<sup>rd</sup> reason of death in children below one year. In children between one to six year it is assigned as 4th important reason of deaths among various other reasons<sup>1</sup>. It is more common in children because of their tendency to explore environment out of curiosity, lack of molar teeth and habit of putting everything in mouth. However foreign bodies can be found in all age groups irrespective of sex.

The foreign bodies can be of any size and shape. As per literature the Coin is a widespread foreign body among various types of foreign bodies observed<sup>2,3</sup>. Other common foreign bodies are groundnuts, batteries, toys, plastic objects, artificial dentures etc.

The mode of presentation of foreign body depends on its location. The digestive tract foreign body present with symptoms such as difficulty in swallowing, refusal to take feeds, vomiting, foreign body sensation etc while the foreign body of airway usually presents as cough, choking & cyanosis. Accidents with foreign body are common and the ease of dealing these depends on its location.<sup>4</sup>

### **AIMS & OBJECTIVES**

The aims & objectives were to ascertain common age group, common types of foreign bodies, their location and management in present study.

### **MATERIALS & METHODS**

A retrospective study was done on 72 patients presenting to Department of Otorhinolaryngology, PMCH, Udaipur. Thorough clinical history followed by meticulous examination was done with history of swallowing or inhalation of foreign body. Appropriate radiological examination to assess the location, number and

dimensions of foreign body to ensure its adequate removal was done.

As per the location of foreign body, the retrieval was performed by direct laryngoscopy, oesophagoscopy or bronchoscopy under general anaesthesia.

## RESULTS

The most common age group was paediatric age group with 65 patients belonging to < 10 years age group, 3 patients belonging to 11-20 year, 1 patient from 31-40 year, 1 patient from 51- 60 year age group, 2 patient from > 60 year age group with no patients in 21-30 year age group.

The foreign bodies were most commonly seen in digestive tract with 65 cases and foreign body in airway in 7 cases (Table no. 1)

In digestive tract, maximum cases were seen in Cricopharynx with 60 cases followed by Oropharynx with 2 cases and Mid-Oesophagus & below with 3 cases. Among foreign bodies in airway bronchus was commonly involved with 4 cases on right side, and 1 case on left side, larynx (1) & trachea (1).(Table no. 2)

The presence of coin as foreign body was common occurrence in digestive tract (Figure 1&2) (56), artificial denture (5) and fish bone in 4 cases. In airway vegetative foreign body (4), supari (2), safety pin (1) were commonly found. (Table no. 3)

History of caregivers should be sought meticulously if they have any suspicion of foreign body

and appropriate steps should be taken promptly for timely diagnosis.

As per symptoms most of the cases presented with dysphagia (31) followed by odynophagia (25), foreign body sensation (10), vomiting (5). Refusal to take oral feeds and drooling of saliva was seen in paediatric age group. A few patients were asymptomatic (34). The most common symptoms were dyspnoea (3), cough (4). Among signs in foreign body airway rhonchi were seen in 3 cases, reduced air entry in 2 cases and hyperresonance in 1 case.

Among foreign bodies of digestive tract 61 patients showed radiological evidence and 4 cases of airway had radiological evidence.

The direct laryngoscopy and oesophagoscopy was done in foreign body digestive tract cases and bronchoscopy in foreign body airway cases.

## DISCUSSION

The foreign bodies can be found in almost all age groups but children are particularly more susceptible. This age group do not have molars and remain in haste while doing other daily activities hence do not chew food properly and to accidentally aspirate them<sup>5,6</sup>. In our study the paediatric age group was most common but elderly also showed foreign bodies because of use of artificial denture

In present study digestive tract foreign bodies are most common in digestive tract than airway. The previous studies also showed the similar results<sup>7</sup>.

As per the location of foreign body cricopharynx was commonest site in digestive tract and right bronchus in airway which is similar to previous study<sup>8</sup>

The most common foreign body was coin<sup>9</sup>. Other common foreign bodies were vegetative foreign bodies, supari.

In oesophageal foreign bodies pooling of saliva and odynophagia was the most common presentation.<sup>10</sup>. Cough and dyspnoea are commonest presentation of foreign body in airway this is in accordance with previous studies<sup>11</sup>.

Most of the foreign bodies in digestive tract were found to be radio-opaque, while in airway foreign bodies radiolucent hyper inflation or collapse of lung was found. This was in accordance with previous studies<sup>12</sup>.

Rigid endoscopy is still the standard line of management in foreign body aerodigestive tract management. All the foreign bodies were removed with help of direct laryngoscopy, rigid oesophagoscopy or bronchoscopy and forceps as per the location as observed in past studies<sup>13</sup>. The foreign bodies which passes beyond oesophagus do not cause any further problem in 75 % cases.

## CONCLUSION

Detailed clinical history, meticulous examination, appropriate radiological investigations and effective and prompt management thereafter leads to reduced morbidity and mortality.

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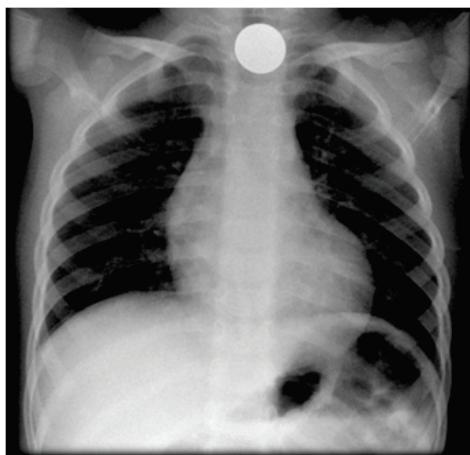


Figure 1



Figure 2

**Table No. 1 - As Per Location of Foreign Body**

S.No.	Location	Number	Percentage
1.	Digestive tract	65	90.28 %
2.	Airway	7	9.72 %
		72	100 %

**Table No. 2 - As per Location of Foreign Body in Digestive Tract and Airway**

S.No.	Location of foreign body	Number	Percentage
<b>1.</b>	<b>Digestive tract</b>	<b>65</b>	
a.	Cricopharynx	60	92.31 %
b.	Oropharynx	2	3.07 %
c.	Mid-Oesophagus & below	3	4.62 %
<b>2.</b>	<b>Airway</b>	<b>7</b>	
a.	Right Bronchus	4	57.14 %
b.	Left bronchus	1	14.29 %
c.	Larynx	1	14.29 %
d.	Trachea	1	14.29 %

**Table No. 3 - As Per Type of Foreign Body**

S.No.	Type of Foreign Body in the	Number	Percentage
	<b>Digestive Tract</b>	<b>65</b>	
1.	Coin	56	86.15 %
2.	Artificial denture	5	7.7 %
3.	Fish bone	4	6.15 %
	<b>Airway</b>	<b>7</b>	
1.	Vegetative foreign body	4	57.14 %
2.	Supari	2	28.57 %
3.	Safety pin	1	14.29 %