

# A Study on Foreign Bodies in Air and Food Passages

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## ABSTRACT

**Introduction:** Foreign bodies in food and air passages have become increasingly common in ENT practice. Foreign bodies in food passage are more common than air passage.

**Materials and Methods:** This is a retrospective study done in the Department of ENT for a period of 2 years with foreign bodies in the food and air passages in 100 cases in detail has been undertaken and incidence of foreign bodies in different age groups, sex, Clinical, radiological and therapeutic evaluation has been undertaken.

**Result:** This study includes a total of 100 foreign bodies, of which 64 were in digestive tract and 36 in respiratory tract. Coins are more commonly found foreign body seen with dysphagia and throat pain common features found. Custard seed is most common foreign body found in air passage and breathlessness is observed in most of the patients. Right main bronchus is the commonest site of lodgment of inhaled FB.

**Conclusion:** FBs in an airway is an acute emergency. The general physician should know when to suspect an aerodigestive FB as soon as possible.

**Key Words:** Foreign bodies, Dysphagia, Breathlessness

## INTRODUCTION

Foreign bodies in food and air passage constitute an emergency problem. In case of foreign body in air passage the patient is usually a child and the parents express anxiety, as the child who was perfectly alright suddenly gets restless and dyspnoeic.<sup>1,2</sup>

The foreign body should be removed as an emergency and all the facilities for removal should be available. A well planned procedure even with a little delay is always better. Diagnosis is usually made from the history and clinical examination. Prognosis is generally good if the patient is brought early and treatment instituted immediately. Any delay in proper diagnosis and treatment will cause morbidity and mortality. Foreign bodies in food air passages show variation in size, shape, nature and clinical picture they produce.<sup>3-7</sup>

In view of the common occurrence of foreign bodies in the food and air passages a study of 100 cases in detail has been undertaken. Statistical evaluation is made with regard to the incidence of foreign bodies in different age groups, sex, and seasonal variations. Clinical, radiological and therapeutic evaluation of cases of foreign bodies in food and air passages has been undertaken.

## MATERIALS AND METHODS

A prospective study of foreign bodies in food and air passages was conducted on 100 patients attending ENT department

with foreign bodies in Larynx, Trachea, Bronchi and Hypopharynx, Oesophagus.

## Exclusion Criteria

Foreign bodies in nasal cavities, nasopharynx, oral cavity. Diagnosis of foreign bodies in food & air passages by detailed clinical history. Thorough examination of ear, nose, throat and head & neck. Based on history, clinical examination and radiological findings cases were selected for further evaluation and study. Complete blood examination and X-ray of chest PA view and lateral view and soft tissues of neck AP and lateral view. Bronchoscopy was done under general anaesthesia for foreign bodies of air way.

## RESULTS

Age below 5 yrs most common group effected in study with foreign body. Males are more found with foreign body [Table 1].

Coins are more commonly found foreign body seen with dysphagia and throat pain common features found [Table 2].

Custard seeds most common foreign body found, breathlessness is observed most prominent symptomatology [Tables 3-4].

Right bronchus is the area more affected site of foreign body [Figure 1].

## DISCUSSION

### Foreign bodies in the food passage

Foreign bodies in the food passage though not very common are one of the important conditions for ENT Surgeons. It is observed that if medical advice is sought in early by the patient, the complications are almost nil. After studying the patients the following interesting facts were revealed. Of the 64 patients studied, none had any complications. Some of the patients showed ingestion of foreign bodies accidentally.

The foreign body were almost equal in incidence among both sexes. Regarding the age, no age was exempt. The youngest of age recorded was six months. Oldest age was 80 years. The types of foreign bodies encountered in the young and older age groups differed. However FB has also been reported by study

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Age Group	No. of Cases	Percentage
0 to 5	29	45.31%
6 to 10	13	20.32%
11 to 20	5	7.81%
21 to 30	4	6.25%
31 to 40	2	3.12%
41 to 50	5	7.81%
51 to 60	3	4.69%
61 to 80	3	4.69%
<b>Sex</b>		
Males	38	59.37%
Females	26	40.63%

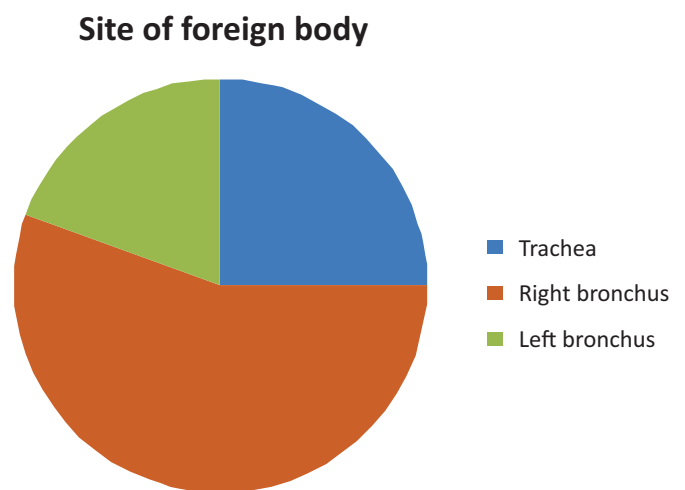
**Table-1:** Demogrphic distribution of foreign bodies in food passages

Nature of Foreign Bodies	No. of cases	Percentage
Custard seed	7	19.44%
Ground nut	9	25%
Tamarind seed	8	22.22%
Pea nut	4	11.11%
Metal items	2	5.55%
Others	6	16.66%
<b>Symptoms</b>		
Breathlessness	22	61.11%
Cough	26	72.22%
Stridor	5	13.88%
Fever	23	63.88%
HOV	4	11.11%
Choking episodes	26	72.22%

**Table-4:** Nature and symptoms of foreign bodies in air passages

Nature of Foreign Bodies	No. of Cases	Percentage
Coins	39	60.93%
Mutton bone	9	14.06%
Chicken bone	4	6.25%
Metal wires	4	6.25%
Battery cell	1	1.57%
Safety pins	2	3.12%
Dentures	1	1.57%
Others	4	6.25%
<b>Symptoms</b>		
Dysphagia	64	100%
Throat pain	40	62.50%
Vomitings	16	25%
Odynophagia	24	37.50%
Haematemesis	1	1.57%
Fever	7	10.93%
Dyspnoea	2	3.12%
Regurgitation of fluids	24	37.50%

**Table-2:** Nature and symptoms of foreign bodies in food passages



**Figure-1:** Site of foreign body

Age group	No. of cases	Percentage
0 to 5	28	77.77
6 to 10	3	8.33
11 to 20	2	5.56
21 to 50	2	5.56
51 to 70	1	2.78
<b>Sex</b>		
Males	21	58.33%
Females	F	41.67%

**Table-3:** Demogrphic distribution of foreign bodies in air passage

done by SPS Yadav et al.<sup>8</sup> in the literature, amongst infants oesophageal FBs are common especially in children. Where as in younger age group foreign bodies like coins, rings, safety pins were commonly encountered, the older age group showed greater predilection towards foreign bodies like mutton bones, chicken bones and dentures. Probably the mischievous nature of children account for the greater incidence of foreign bodies like coins and safety pins. Kamat et al.<sup>1</sup> found fish bone (39%) as the commonest FB. The reason for bone chip to be the commonest FB in our study may be owing to the fact that meat is

a very common food in this part of world. All the 64 cases recorded, complained of dysphagia, nearly half of the patients complained of constant pain in throat, two factors must have resulted in the production of pain. Discomfort in the throat and pricking sensation of throat were found in almost all patients. Out of 64 patients 24 patients complained of regurgitation of fluids. 7 patients had temperature between 99 degree F-100 degree F and subsided after two days after removal of foreign body. 16 complained of vomiting, 2 complained of dyspnoea, and 1 complained haematemesis. X-ray examinations showed the evidence of foreign body in most of the patients. Dentures are radio lucent and it cannot be easily identified in the X-ray examinations. In the case of flat radio opaque objects like coins, antero-posterior view was enough to clinch the diagnosis because of the important fact that the flat object tends to lie in the coronal plane in the oesophagus, whereas they occupy sagittal plane in case of trachea-bronchial tree.

Thus clinical symptomatology itself was enough for the surgeon to undertake an exploratory oesophagoscopy or bronchoscopy. So one need not always rely upon X-ray examination for diagnosis. In all the cases studied, oesophagoscopy

was done under G.A and the foreign bodes were removed in the first attempt. In all the patients post operatively antibiotics were given and they were discharged from the hospital after 1 to 2 days,after removal of foreign body. The Prognosis of foreign body in the oesophagus out of the 64 cases studied all of them recovered without any post operative complications.

In our study we found foreign bodies as 64 % food and 34% air passages in study, Hung and Lin<sup>9</sup> found that 76% and 24.7% FBs and 79 % and 21% by Showkat et al.<sup>10</sup> 78% and 22% by P.T. Deshmukh<sup>11</sup> while Brooks<sup>12</sup> found them to be 80% and 20%, respectively.

### Foreign body in air passages

Although no age group is exempt from this accident, children in age group between 1-5 years are more susceptible. It shows that a child who had just learnt crawling or walking when he mixes with other boys for playing purposes are mostly susceptible for the accident.

This study of 36 cases showed 20 cases of FB right bronchus,7 cases of FB left bronchus, and 9 cases of FB trachea. The FBs were encountered in the right main bronchus in 55.5% patients, whereas, they were in the left main bronchus in 19.4% of them. This right-sided predominance can be explained by the vertical nature of the right main bronchus, its larger diameter, the greater air flow through it, and the localization of the carina to the left of the midline of the trachea.<sup>13</sup> correlates with study of Showkat SA et al.<sup>10</sup> and also other studies.

Custard seed is most common foreign body found in air passage. Presence of history of foreign body out of the 36 patients studied 19 patients gave definite history. In remaining 17 patients there was no definite history of foreign body aspiration. These patients were treated for bronchopneumonia and were sent to this hospital when there is no improvement in their condition. The component symptom which brings the patient is breathless-ness of sudden onset. Irregular fever is not uncommon. In all patient with vegetable foreign body, they produced either atelectasis of lung or obstructive emphysema.

Performing an X-ray chest in these patients at the time of presentation has only a limited value in diagnosis and should never influence the decision for a timely bronchoscopy. Bhalodiya et al.<sup>14</sup> found normal X-ray findings in 32 of 42 patients. They also observed that the time elapsed since inhalation was significantly related to normalcy of X-ray chest findings. Our study is an observational, retrospective study and, as such, has all limitations that apply to any retrospective study.

The prognosis of foreign body in the air passage is fairly good provided it is diagnosed and treated early. This requires education of the public regarding hazards of foreign body by various methods of propaganda through health inspector, health visitors, midwives etc. Facility should also be provided for endoscopies at district head quarter hospitals.

### CONCLUSIONS

Foreign bodies in air passage are more common in young children upto the age of 5years.No age is exempt in cases of foreign bodies of food passages. Mortality is almost nil if diagnosed and treated promptly. The prognosis is good if the

patient is brought immediately. General anaesthesia is safe and preferable. complications increase as the duration after aspiration or ingestion increases. All medical people especially general physicians and paediatricians should be aware of such an accident. Public education is required regarding the possibility of such an accident occurring.

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