

# Foreign Body Ingestion an Otorhinolaryngological Emergency in a Tertiary Care Center in Kashmir.

Baba Aijaz Khaiq<sup>1</sup>, Ihsan Ahamad Bhat<sup>2</sup>, Aezaz Ahamad Bhat<sup>2</sup>, Nisar Hussain Dar<sup>3</sup>

<sup>1</sup>Senior Resident, Department of ENT, Govt. Medical College Srinagar, J & K, India.

<sup>2</sup>Post Graduate Scholars, Department of ENT, Govt. Medical College Srinagar, J & K, India.

<sup>3</sup>Associate Professor, Department of ENT, Govt. Medical College Srinagar, J & K, India.

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## ABSTRACT

**Background:** Foreign Body ingestion is a common event most often seen in children from 6 months to 6 years of age. In adults, foreign bodies are usually ingested accidentally along with food. This happens more commonly in persons with certain pathological changes of the gastrointestinal tract mostly in elderly. Children ingest foreign bodies because of their natural tendency of tasting everything and putting things in mouth along with weak reflexes. **Methods:** This study was conducted in the department of ENT SMHS Hospital Govt. Medical College Srinagar, a tertiary care center in Kashmir. All those patients were included in this study who reported directly to our emergency department or were referred from peripheral hospitals with history of ingested foreign bodies. **Results:** The foreign bodies most commonly ingested were fish bones and chicken bones, coins, button batteries, ear rings, nails, screws and meat bolus. **Conclusion:** The clinical approach to the problem depends on the type of material ingested and on the patient's symptoms and physical findings. In children mostly coin and button batteries were ingested however in adults fish bone, chicken and meat bones were among the commonly ingested foreign bodies observed in our study.

**Keywords:** Foreign Bodies, Ingested, Swallow.

## INTRODUCTION

Treating patients with ingested foreign bodies is a common otolaryngological emergency. Various types of ingested foreign bodies were observed in all age groups. Furthermore, a bolus has been seen becoming stuck during ingestion of food, resulting in the clinical presentation of a foreign body impacted in the esophagus. Swallowing of foreign bodies is most common in children aged between 6 months and 6 years.<sup>[1,2]</sup> In adults, foreign body impactions are mostly seen in the context of a pre-existing pathology. Sung et al reported the following causes for impaction:<sup>[3]</sup> Strictures (about 37%), Malignancy (about 10%), Esophageal rings (about 6%), Achalasia (about 2% of cases). However, in most of cases no pathological predisposition is present. Also good number of cases of ingested foreign bodies are reported inpatients of advanced age, those with mental retardation, and with psychiatric disorders.<sup>[4,5]</sup> The physiologically and anatomically narrow parts of the gastrointestinal tract make the passage of the ingested body difficult and are the predilected sites

for foreign body impaction.<sup>[1-5]</sup> According to the available data, frequencies of swallowed foreign bodies vary widely. The foreign bodies most commonly swallowed by adults are:<sup>[3,6,7]</sup> Fish bones (9–45%), Bones (8–40%), Dentures (4–18%). Meat bolus (2–8%). Longstreth et al. reported an annual prevalence for bolus impaction as an independent sub entity of 13/1,00,000. As long as no occlusion and/or other complications develop, the clinical signs are not necessarily dramatic and may even be lacking. Most patients present with the sensation of a foreign body, difficulty in swallowing, chest or abdominal pain, or vomiting.<sup>6</sup> The foreign body is passed naturally in some 80% of cases. In 20% of cases, intervention is indicated. Surgical intervention is indicated in less than 3% of cases.<sup>[1,3,5,6,7,9]</sup> In spite of the mostly benign natural course, ingestion of foreign bodies is associated with increased morbidity. In the USA alone, some 1500 deaths are reported every year.<sup>[10]</sup> Information on the nature of foreign bodies, non-radio dense and some radio dense foreign bodies, native x-ray examination is mostly not sufficient to exclude ingestion of a foreign body. Ngan and colleagues showed a sensitivity of only 32% and a specificity of 91% for ingested fish bones in native x-ray films of 354 patients.<sup>[18]</sup> Although small foreign bodies, such as fish bones and chicken bones are dense enough to

### Name & Address of Corresponding Author

Dr. Ihsan Ahmad Bhat  
Postgraduate Scholar,  
Dept. of ENT  
Govt. Medical College  
Srinagar, J & K, India.

show in the radiograph, they may be concealed by fluids and soft tissue mass,<sup>[19,20]</sup> Such foreign bodies can be excellently identified by using computed tomography (CT) scanning, as shown by Coulier et al.<sup>[20]</sup> With a sensitivity of 100% and a specificity of 91%, CT has an important role in the diagnostic evaluation of ingested foreign bodies.<sup>[21]</sup> Some authors have advised against using contrast medium in the setting of radiological diagnostic evaluation, because of the risk of aspiration, reduced ability to assess the mucosa, and possible concealment/masking of the ingested body.<sup>[1,5,9]</sup> The use of ultrasonography to diagnose ingested foreign bodies seems uncommon. This is confirmed by the limited number of published case reports.<sup>[22]</sup> The largest series in an adult cohort was published by Coulier in 1997 and included only six patients.<sup>[23]</sup> This also shows how rarely ultrasonography is used to detect ingested foreign bodies. Some authors have described using metal detectors to diagnose swallowed foreign bodies.<sup>[24,25]</sup> Sacchetti et al. found a sensitivity of 94% and a specificity of 100% for metal detectors used to identify metal foreign bodies.<sup>[25]</sup> The method is cheap, can be repeated as often as required, and does not entail radiation. Although metal detectors,<sup>[23-25]</sup> are used primarily in children, Ryan et al. recommend extensive application of this simple diagnostic instrument in adults too.<sup>[24]</sup> In our opinion this approach does not yield any tangible information and is hardly used in adults in clinical practice. It is important that imaging is performed directly before any planned intervention since the position of the ingested body may change substantially over time.

## MATERIALS AND METHODS

This study was conducted in Department of ENT, SMHS Hospital Govt. Medical College Srinagar

during a period of eighteen months from July 2016 to Dec 2017. All patients who came to our department with suspected history of foreign body ingestion whether reported directly or referred from peripheral hospitals were included in this study. Proper history was taken and complete general and ENT examination was done in all patients. Base line investigations along with x-ray neck and chest were done in all patients. Computed tomography<sup>20,21</sup> was done only in limited number of cases, especially children where x-rays were unremarkable, and to avoid the unnecessary risk of anesthesia and the surgical procedure. Hypopharyngoscopy under general anesthesia was done in all cases, except in patients with fish bone ingestion, in whom direct laryngoscopy under local anesthesia with or without the use of endoscope was done.

## RESULTS

**Table 1: Showing foreign bodies ingested by children along with sex distribution.**

Nature of foreign bodies	Total	Male	Female
Coins	235	139	96
Button batteries	33	18	15
Earrings etc.	7	2	5
Nails, screws and others	21	13	8

**Table 2: Foreign bodies ingested by adults with sex distribution.**

Nature of foreign bodies	Total	Male	Female
Fishbone	117	39	78
Bone chips (chicken bone) etc.	170	87	83
Dentures	27	9	18
Meat bolus	18	10	8
Scarf pins	7	Nil	7

**Table 3: Different surgical procedures carried out and the anesthesia used for removing foreign bodies in children.**

Nature of foreign bodies	Total	Local anesthesia (direct laryngoscopy)	General anesthesia (hypopharyngoscopy)
Coins	235	35	200
Button batteries	33	Nil	33
Ear rings etc.	7	2	5
Nails, screws etc.	21	Nil	21

**Table 4: Different surgical procedures carried out and the anaesthesia used for removing the foreign bodies in adults.**

Nature of foreign bodies	Total	Local Anesthesia	General Anesthesia
Fish bone	117	116	01
Bone chips (chicken bone) etc.	170	Nil	170
Dentures	27	Nil	27
Meat bolus	18	Nil	18
Scarf pins	7	2	5

Foreign body inhalation although a less common ENT emergency but all otorhinolaryngologists do encounter such emergencies in lime time practice.so as a doctor such emergencies need to be tackled with utmost care because most of the time patients are asymptomatic and radiology doesn't always help as

foreign bodies can be radiolucent which may result in negligence, more morbidity as well mortality also.

In children 6months to 6 year were the commonest age group involved. While in adult's age above 60 was one commonly involved.



**Pictures of various ingested foreign bodies**



**Pictures showing ingested fish bone, one removed from tonsillar fossa.**

### **DISCUSSION & CONCLUSION**

Foreign body ingestion although less life threatening can lead to high morbidity as well as mortality if neglected. Thus early diagnosis and careful removal is mandatory. Although in our study we removed most of the ingested foreign bodies under general anesthesia and all the procedures were uneventful, except in one child patient with ingestion of a button battery who needed thoracotomy and end to end anastomosis due to local erosion of upper esophagus.<sup>[7,26]</sup> Most of the patients presented with positive history and chief complaint of local tenderness and odynophagia and a few with vomiting. All fish bone foreign bodies were removed under local anesthesia, under direct laryngoscopic examination with or without use of endoscopic visualization two scarf pins in adult girls were removed under local anesthesia as they were lodged in pyriform fossa. In children most of the foreign

bodies were removed under general anesthesia, however we were able to remove few ingested coins under local anesthesia. Children 6 months to 6 years and adults above 60 years of age were the most commonly affected. Among both children and adults males were more commonly affected than females. Fish bone and denture ingestion was seen more in females.

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