

INGESTED FOREIGN BODIES IN ERBIL

Saleh TAWFIQUE FRCS FRCSEd DLO SB prof otolaryngology

KBMS , Erbil ,Iraq / Email salehtawfique@hotmail.com

Abstract

Background and Objectives

Ninety two patients with history of ingested foreign bodies (FB) were seen between Jan 2002 to January 2010 in an otolaryngology clinic in Erbil . Majority of cases were children . Food particles and animal bones were found to be most common types of the foreign bodies . Cases managed by endoscopic removal of the FBs under General anaesthesia . Complications were rare except in two cases . The management of these cases is discussed . Rare foreign bodies of interest is reported .it is recommended that children under 5 years should be supervised and not to be left alone to feed themselves. Patient who has denture shall take enough time with his meal and to take small bullous chewing them properly. Patients who has swallowed sharp , irregular FBs must be managed with by senior staff with good skill in endoscopy.

Patients and Methods

This is a prospective study where data of cases collected and saved on computer for future analysis .

Ninety two patients with history of recent foreign body (F B) ingestion were seen in an Otolaryngology clinic in Erbil. The detail of history of each case including age , sex, social status , symptoms and state of ingestion of the foreign body were recorded. All patients had clinical and endoscopic examination of oro and hypopharynx to localize the F B . Patients in whom the F B was not localized by clinical examination, were sent for radiological imaging of the neck , chest and upper abdomen to identify the type of FB and the site of impaction. Barium swallow was done only with high suspicious of ingested radio-translucent FBs when the FB could not be localized with plain X -ray.

Patients with F B in hypopharynx and oesophagus were admitted and prepared for diagnostic and therapeutic endoscopic examination under general anaesthesia (G A) with endotracheal intubation. Imaging study wasrepeated immediately before endoscopy specially with smooth ingested FBs . The type of the F B removed was recorded . Patients who had uneventful endoscopic examination and those with smooth F B were discharged home on the same day, while patients who had ingested sharp F B , or had neglected and infected F B or had excess manipulation during endoscopic removal of the F B were kept under observation for 24 hours . Cases who developed any complication and required farther intervention were sent for new radiological imaging to confirm the complication occurred and treated accordingly .

Results

Total of 92 patients with F B in pharynx and oesophagus were recorded . Age ranged from 12 months to 70 years , age distribution charted in (chart 1). Majority of them (47) were children in the first decade of life . 17 cases were above 45 years. Sixty five were male and 27 female .

Painful swallowing was the presenting symptom in 90 cases . Progressive dysphagia and vomiting was presenting symptoms in 2 cases . FBs were swallowed either accidentally or with meals . Two patients swallowed sharp FBs (needle and glass) in suicidal attempt. The types of ingested FBs are listed in (table 1).

Key words

Pharyngeal and esophageal foreign bodies

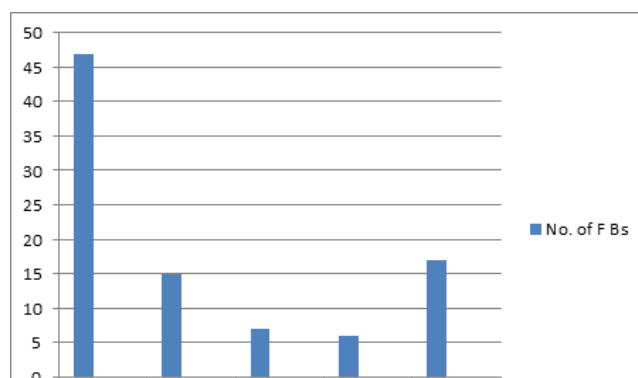
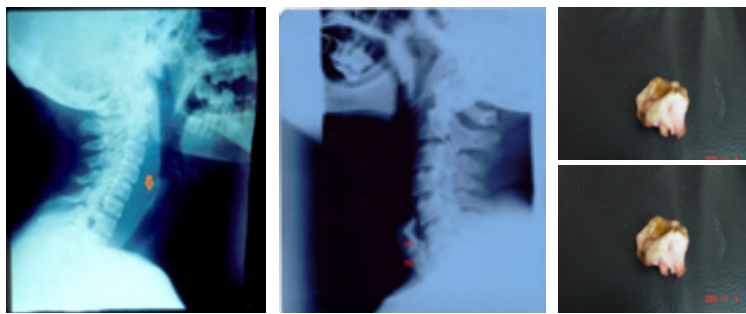


Table (1): various type of foreign bodies ingested and removed endoscopically

Type of the foreign body	No. of cases
Chicken and animal bones	56
Fish bones	18
Needle	3
Nails	2
Glass particles	3
Screws	2
Sharpe metals	3
Part of denture	2
Inner part of hand watch	1
Ear rings	2

Commonest site of impaction of the FB were at the cricopharyngeal sphincter with no relation to age or sex of patients (4,5) (Figure1,1a) .90% of F Bs was impacted at this sphincter, while sharp metals and fish bones were found attached at tonsils , back of the tongue and hypopharyngeal wall (Figure 2 , 3) .



Figure(1):chicken bone at post cricoid .Patient is edentulous

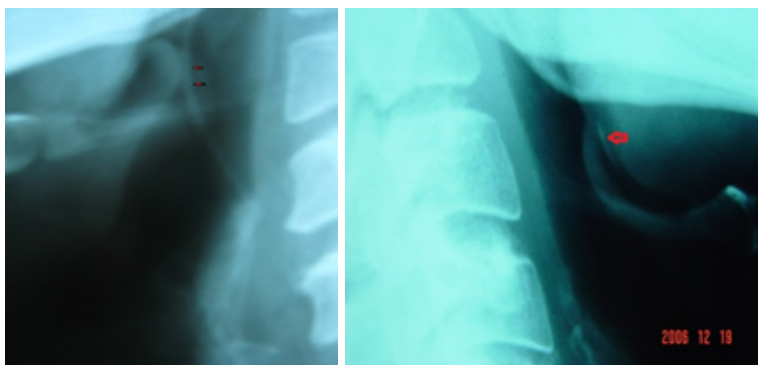


Figure (2):large fishbone supraglottic region Figure (3): fish bone base tongue (arrow)

Toys with loose particles (knobs, marble, pearls) are more swallowed by children.

Figure (4):shows inner part of a watch swallowed by a child!

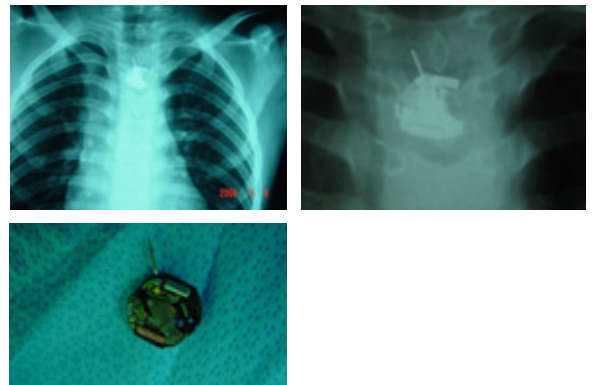


Figure (4): shows inner part of a watch swallowed and impacted at post cricoid Needles , screws or metallic particles accidentally swallowed by Tailors, carpenter or blacksmith , (Figure5.6.7and 8).



Figure (5): metal washer post cricoid Figure (6) : metal ring post cricoid



Figure (7): screw post cricoid Figure (8): metal ring mid oesophagus

One case had the FB at site of previous stricture mid oesophagus and in one case the FB was found impacted at cricopharyngeal sphincter due to a narrowing by a tumor mass . see (Figure9,10) and Table 2

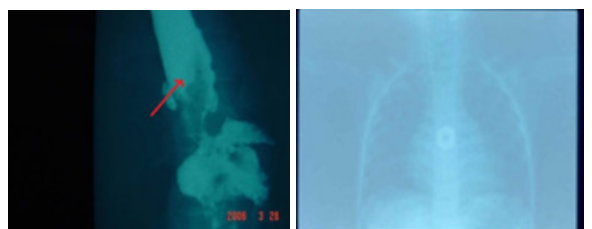


Table 2 : showing site of impaction of FBs on radiological imaging

SITE OF IMPACTIONS	BASE OF TONGUE AND OROPHARYNX	CRICOPHARYNGEAL SPHINCTER	MID OESOPHAGUS	CARDIO OESOPHAGEAL SPHINCTER
No of cases	7	83	1	1

All 92 cases underwent rigid endoscopy of the pharynx and oesophagus under GA and the FBs detected were removed. Endoscopic finding was positive in 84 cases (table 3). While in 8 cases endoscopy was negative. In these negative cases the FBs were descended to the stomach on its own while pa-

tients waiting for endoscopic examination under GA. These cases were sent home and given appointment for follow up. FBs found and localized in oropharynx during clinical examination were removed under local anaesthesia (LA) in the clinic.

	POSITIVE	NEGATIVE
NO OF CASES	84	8

No serious complications were recorded in this series. One patient age 5 years swallowed a needle developed retropharyngeal abscess (Figure (11)). He was treated

with drainage of the abscess under GA. He did well with antibiotics treatment post operatively.

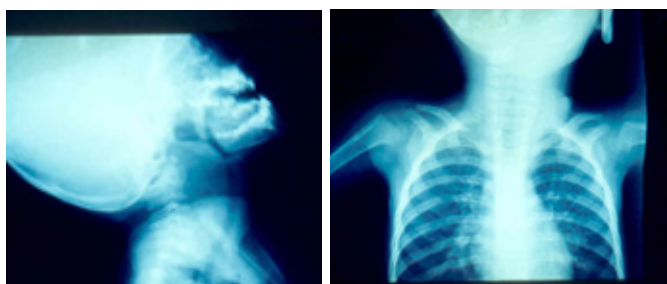


Figure (11): shows retropharyngeal abscess, arrows. Another 4 years boy had post operative cervical abscess and mediastinitis (Figure (12): a b c). This child had prolonged impacted sharp metal at upper oesophagus and was not without risk for endoscopy. The patient recovered with systemic antibiotics and nasogastric feeding after endoscopy.

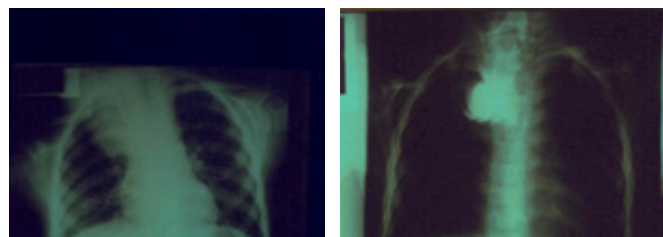


Figure (12): a showing signs of mediastinitis. Figure (12): b barium study showing extravasation of the barium out of oesophagus

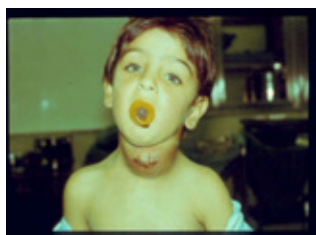


Figure (12): c cervical abscess with cellulitis

Discussion

Foreign bodies in the oesophagus is either swallowed accidentally or swallowed with food. Many authors (1,2,3,4) reported ingested FBs. All of them found coins to be the most common swallowed FBs in children, while food particles and bones were common in adults and elderly patients. In our study coins were rare, as coins are now a day not available and not circulated for shopping. In our series only a case reported with a round opaque FB in upper oesophagus similar to coin

, after endoscopy it was found to be metallic piece in size of a coin.

The site of impaction of the FB were in majority at the cricopharyngeal sphincter with no relation to age or sex of patients (4,5). This sphincter is narrowest part in GIT and it is site for impaction of FBs as reported also by other authors (6,7). Children with poor social state who are not given good attention and supervision and being left to feed them self during early age of life, are more

liable for swallowing foreign bodies^(4,8). In our series all social sectors were found to be subjected for this accidental ingestion of FBs.

Loose particles of toys such as (knobs, marble, pearls) are more liable to be swallowed by children .Occupation of patients may play rule in accidental swallowing of FBs such as in tailors, carpenter or blacksmith , they may swallow needles , screws or metallic particles accidentally during working . Elderly who wear denture may be at risk for swallowing bones (Figure (13): and food bullous or part of loose denture (Figure 14,15) because they can neither chew food properly nor can feel the FBs in their mouth . In our series all senile patients who swallowed food particles accidentally were having denture.

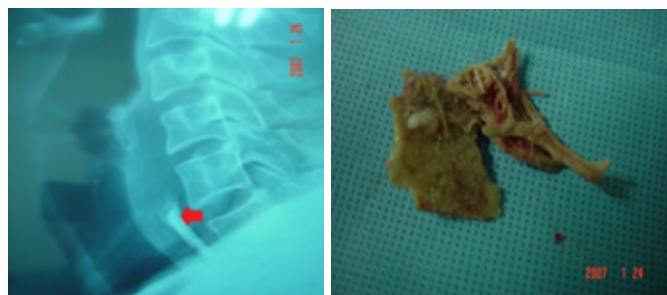


Figure (13): bone post-cricoid (arrow) the bone removed by endoscopy

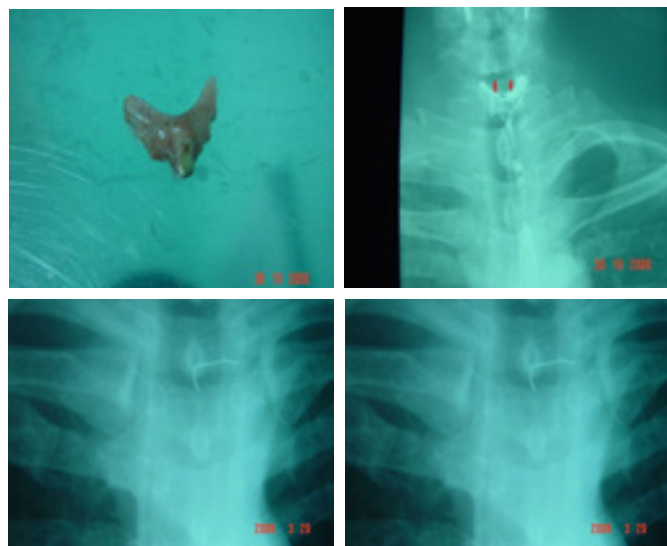


Figure (14): partial denture at post cricoid (red arrows)

Figure (15): part denture with metallic wire swallowed

In 90% of our series the site of impaction was at the cricopharyngeal sphincter . This sphincter is the narrowest part of elementary tract . Any smooth FB passes this sphincter it will come out in the feces on its own ^(9,10) . FBs may get impacted for long period if there is pathological narrowing of oesophagus such as strictures or narrowing du to tumors^(11,12) .In our serious only 2 cases were reported to have FBs at pathological sites in oesophagus.

Successful removal of FBs by endoscopy without complications requires proper preoperative radiological imaging to localize the site of impaction and the type of the FB.^(13,14)

The endoscopy should be done by expert surgeon in this field and under GA with intubation and full relaxation . Smooth FBs may descend to stomach on its own and will come out in the faeces and require no treatment. Some time while the patient is prepared for endoscopy the FB descends to the stomach , therefore it is recommended to repeat the radiology imaging immediately before endoscopy. The procedure shall be abolished if the FB is found in the stomach. (Figure 16) .

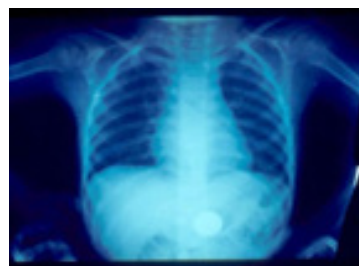


Figure (16): smooth FB descended into the stomach

Smooth FB can be removed easily using alligator grasping forceps through rigid oesophagoscope . Sharp or pointed FBs (Figure 17,18,19) must be removed with extra care to prevent laceration or possible perforation of oesophagus and mediastinitis⁽¹⁵⁾ . These patients must stay for 24 hours under observation after endoscopy .

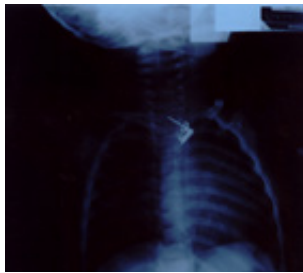


Figure (17): Ear ring Figure (18): metal loop

Figure (19): opened safety pin

Antibiotics or steroid are not necessary before and after endoscopy except in patients who had impacted FB for long period or had infected F B diagnosed or a foreign body contains corrosives as batteries⁽¹⁶⁻¹⁷⁾.

Patient who has impacted FB at sites other than physiological narrowing of oesophagus or patients with recurrent impacted ingested FB shall have a second look in oesophagus after removal of the FB endoscopically to find out and to exclude any pathology in the oesophagus such as tumors or strictures⁽¹⁸⁾

Conclusions

Foreign bodies commonly swallowed are food particles, bone, large bullous. Coins are not any more seen as ingested FB, as coins are now a day not circulated or used for shopping. Ingested FBs in hypopharynx and oesophagus must be removed endoscopically under GA with endotracheal intubation, by expert otolaryngologist to prevent serious complications which are liable to occur when attempt for removal is tried under LA, specially with sharp or irregular FBs. Radiology imaging shall be repeated immediately before GA specially with swallowed smooth FB to avoid unnecessary endoscopy. Junior staff shall be allowed to do endoscopy for treatment of ingested FB only under supervision and under GA with intubation and full relaxation.

REFERENCES

1. Dahshan A. Management of ingested foreign bodies in children. *J Okla State Med Assoc.* 2001;94:183–6.
2. Arana A, Hauser B, Hachimi-Idrissi S, Vandemplas Y. Management of ingested foreign bodies in childhood and review of the literature. *Eur J Pediatr.* 2001;160:468–72.
3. S A TAWFIQUE ; Ingested foreign bodies in Arbel, Iraq. *Kurdistan Medical journal.*1994;1(1):3- 8.
4. Conners GP: Foreign Body Ingestion, *Medscape*, Jul 2010
5. Cheng W, Tam PK. Foreign-body ingestion in children: experience with 1,265 cases. *J Pediatr Surg.* 1999;34:1472–
6. Byerley JS. Pediatric emergencies in the family practice clinic. *Clin Fam Pract.* 2003;5:445–66.
7. Gilger, Jain & McOmber (2012). Foreign bodies of the esophagus and gastrointestinal tract in children. UpToDate.
8. Rebhandl W, Milassin A, Brunner L, et al: In vitro study of ingested coins: leave them or retrieve them? *J Pediatr Surg.* 2007 Oct;42(10):1729-34.
9. Soprano JV, Mandl KD. Four strategies for the management of esophageal coins in children. *Pediatrics.* 2000;105:e5.
10. Gilger M, Jain A, McOmber M. Foreign bodies of the esophagus and the gastrointestinal tract in children. (Last updated January 4, 2009) In: UpToDate,
11. Ferry G, Singer J, Hoppin A (Ed), UpToDate, Wellesley, MA, 2010. Kay R, Wyllie R. Pediatric Foreign Bodies and their Management. *Current Gastroenterology Reports.* 2005; 7: 212-218
12. Haidary A, Leider JS, Silbergleit R ; Unsuspected swallowing of a partial denture. *AJNR Am J Neuroradiol.* 2007 Oct;28(9):1734-5. Epub 2007 Sep 20.
13. Susini G, Pommel L, Camps J: Accidental ingestion and aspiration of root canal instruments and other dental foreign bodies in a French population. *Int Endod J.* 2007 Aug;40(8):585-9. Epub 2007 May 26.
14. Yang MC, Lee SW, Huang YG, et al: Acute mediastinitis resulting from an unsuspected fish bone--case report. *Int J Clin Pract Suppl.* 2005 Apr;(147):45-7.
15. Louie JP, Alpern ER, Windreich RM: Witnessed and unwitnessed esophageal foreign bodies in children. *Pediatr Emerg Care.* 2005 Sep;21(9):582-5.
16. De Roo AC, Thompson MC, Chounthirath T, et al. Rare-earth magnet ingestion-related injuries among children, 2000-2012. *Clin Pediatr (Phila)* 2013; 52:1006.
17. Abbas MI, Oliva-Hemker M, Choi J, et al. Magnet ingestions in children presenting to US emergency departments, 2002-2011. *J Pediatr Gastroenterol Nutr* 2013; 57:18.
18. Eisen GM, Baron TH, Dominitz JA, Faigel DO, Goldstein JL, Johanson JF, et al. Guideline for the management of ingested foreign bodies. *Gastrointest Endosc.* 2002;55:802