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Original Research Article

Foreign Bodies in Aerodigestive Tract

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Abstract: Foreign bodies in aero digestive tract are more common in children. The objective of our study is to know the nature of foreign bodies, age, sex distribution and site of lodgement. A prospective study was conducted on 70 cases of Foreign Bodies admitted from 1st November 2005 to 30th April 2007. The complete data is collected from the patient in a case record form by taking history of illness, detailed clinical examination & relevant investigations. Foreign Bodies are more common in age group below 5yrs.Most of the Foreign Bodies swallowed are coins, bones, mutton bolus and inhaled seeds, betel nut and plastic toys. Rigid endoscopy has made Foreign Bodies removal relatively simple and safe procedure with the help of safe anaesthesia.
Keywords: Foreign Bodies, Air passage, Food passage, Endoscopy

INTRODUCTION

The study of Foreign Bodies in the Air and Food passage is a subject of human as well as clinical interest. However, the importance of Foreign Bodies in Air and Food passage was not particularly noted until the early part of 19th century. One of the complications that an otorhinolaryngologist frequently meets with in his professional life is Foreign Bodies in the Air or Food passage may, many times, prove fatal to the patient [1].

For clinical purposes Foreign Bodies are grouped into those that require immediate removal and those that could wait for ideal operative procedure. Foreign Bodies are relatively common, particularly in children, but their presence in adults can by no means be ignored.

In this study an attempt is made to study the problems caused by the Foreign Bodies in aero digestive tract, difficulties encountered during removal, and complications following scopies [2, 3].

METHODOLOGY

A sample size of 70 patients in the age group 3 months to 65 years with history of Foreign body, from 1st November 2005 to 30thapril 2007 for a period of one & half year was studied. All patients of any age group, who presented with a complaint or suspicion of an inhaled or ingested foreign bodies, were included in the study. Data were recorded for patient's age, sex, date of inhalation of Foreign Body, date of diagnosis, any significant symptoms or signs, diagnostic radiographic maneuvers employed and radiographic findings. Additional information included prior medical evaluation, procedures undertaken to remove the foreign body, intra operative findings and complications. The type of object and localization were also identified. Patients were followed up on 1st week, 2nd week and 1st month for any complication.

RESULTS

Maximum number of cases was seen in age group of 0-5 years followed by 6-10 years. There was not much difference in sex distribution; male to female ratio was 1.06:1. Among various types of Foreign Bodies majority were metallic (coins, pins, needles, nails) Foreign Bodies 25 (35.71%), with in metallic Foreign Bodies coins 21(30%) were in majority. Followed by seeds & nuts 15(21.42%), plastic toys 12(17%).

50% of Foreign Bodies were lodged in food passage, 45% in air passage and 5% in pharynx.

Pharynx being cross road of food and air passage so it is taken as separate entity. When we take subsites in aero digestive tract majority were in oesophagus followed by left main bronchus and right main bronchus.

Table-1: Age Distribution

Age group (years)	**Number of patients**	**Percentage**
0-5	42	60%
6-10	12	17.14%
11-20	5	7.14%
21-30	5	7.14%
31-40	3	4.28%
41 and above	3	4.28%

Table-2: Gender Distribution

	Male	**Female**
Number of patients	36	34
Percentage	51.42%	48.58%

Table-3: Types Of Foreign Bodies

Types of Foreign bodies	Number of patients	Percentage
Metallic	25	35.71%
Seeds & nuts	15	21.42%
Plastic	12	17.14%
Bones & Mutton bolus	9	12.85%
Stones, chalk, Rhinolith, Glass	6	8.57%
Unidentified	3	4.28%

Table-4: Area of Lodgment

Area of lodgment	Number of patients	Percentage
Nasal cavity	7	10%
Pharynx	3	4.28%
sOesophagus	35	50%
Larynx	2	2.85%
Trachea	5	7.13%
Right main bronchus	8	11.42
Left main bronchus	10	14.28

DISCUSSION

Foreign Bodies in the aero digestive tract are preventable hazard with due awareness it can be prevented. The complications presented by each individual case are unique, and, presents a challenge to the otolaryngologist.

Our study has the maximum cases in the age group of 0-5 years because tendency of parents and relatives to offer coins, toys etc to pacify a crying child or as a token of love and children in this age are curious in nature, strong oral tendency and lack of molar teeth. In rest of cases Foreign Bodies ingestion or aspiration is due to accidental swallowing or inhaling in persons with mental retardation, alcoholism, psychosis and neurological disorder.

Over all 43% of airway foreign bodies were food items which include nuts & seeds. Followed by plastic materials which include pen cap, whistle, beads and buttons. Coins outnumbered oesophageal foreign bodies followed by bone & mutton bolus. Nasal foreign bodies were seen in school going children and it is mainly due to negligence of school staff who fails to monitor them. In our study we came across 3 unidentified foreign bodies one in the subglottic region, which was membranous material and other two were rubbery type materials at the level of vocal cords and in right main bronchus [3, 4, 5]

In our study 90% of patients presented with definitive history of foreign body aspiration or ingestion out of them one patient revealed unidentified foreign body and 10% patients presented with doubt full history out of them 2 patients revealed unidentified foreign body. Most of patients with foreign body in the digestive tract presented with dysphagia, pain in the chest & vomiting in adults. Children with food passage foreign bodies presented with drooling of saliva and refuse to have food. Patients with air way foreign bodies presented with history of choking, paroxysmal cough, fast breathing, stridor, wheezing and cyanotic episodes. Long standing air way foreign bodies presented with cough, breathlessness, and fever and decreased air entry on affected side. Patients with nasal foreign bodies presented with epistaxis, nasal obstruction and long standing cases presented with foul smelling nasal discharge [6, 7, 8]

Incidence of foreign body aspiration or ingestion were nearly equal along all seasons with no variation.

Radiology was very use full in diagnosing food passage foreign bodies as most of them were radio opaque materials like coins and bone piece. Radiological findings were indirect in case of air way foreign bodies like lung collapse, hyperinflation as most of foreign bodies are seeds, nuts and plastic materials which were radiolucent.

22 patients under went bronchoscopy of them 3 patients revealed unidentified foreign bodies.28 patients under went oesophagoscopy for oesophageal foreign bodies. There was no intra operative or postoperative complication. All patients under went endoscopy under general anaesthesia. There was no significant postoperative morbidity or complication. 80% of the patients came for first three follow-up (1^{st} week, 2^{nd} week and 1^{st} month). 20% of patients only for first two follow-up. Since foreign body inhalation or ingestion is a sudden process and timely intervention and removal virtually dose not leave any morbidity, may be the reason why patients does not feel to come for follow-up [9,10]

CONCLUSION

This was a hospital based prospective study of Foreign Bodies in aero-digestive tract. 70 patients with foreign bodies in air and food passage evaluated for the clinical course of the symptoms and correlation of radiological investigation with type of foreign body & site of lodgement. Most of the affected patients were in age group of 0-5 years. Next most common age group was 6-10years. There was equal sex distribution. Coins were the most common foreign bodies in food passage followed by bones & mutton bolus. Seeds& nuts were the most common foreign bodies in air passage followed by plastic materials. Radiology was the most use full diagnostic aid in diagnosing most foreign bodies. Rigid endoscopic removal of air and food passage foreign bodies is both the most efficacious and the least morbid treatment.

TAKE HOME MESSAGE

- Normal X-ray doesn't rule out foreign body
- Practice with dummy
- Be ready and equipped
- Don't make a closed case open
- Don't turn a non obstructing foreign body into obstructing one
- Don't miss a second foreign body

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