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Upper aero digestive tract Endoscopy in the Preschool age in Gezira State

ABU SUFIAN HASSAN AHMED EL HAJ

E.N.T. Consultant, Associate Professor Department of otorhiolaryngology (ENT)

Faculty of Medicine, University of Alneelain

Contact address: ABU SUFIAN HASSAN AHMED EL HAJ
Email: abusufianehaj@gmail.com,Telph.+249912296931,+249122160169

Abstract

Introduction: This study aims to determine the prevalence of upper aero digestive tract endoscopic procedures among preschool children, in Gezira state. Foreign bodies' ingestion, inhalation, insertion and introduction are common ear, nose and throat (ENT) problems in children and some time in toddlers and adults. Foreign body can be occurring accidentally or intended by the same person or introduced by other. These can be removed easily or may need surgical intervention under general anaesthia or full sedation. The most serious one is foreign bodies' bronchus which may necessitate urgent bronchoscope under general anaesthia with high risk complications and mortality even in skillful and well trained hands. **Patients and Methodology:** This is a retrospective study conducted at the otolaryngology–head and neck surgery department (E.N.T) Wad Medani Teaching Hospital- Gezira State -Sudan, during the period (February 2006 - February 2009) -Total number of studied patients' was176. All the preschool age children who presented to E.N.T. Department, Wad Medani Teaching Hospital, during the period of the study, with suspicions of Upper aero digestive tract F.B. and underwent Endoscopy. **Results:** The total number of patients records reviewed was 176.

One hundred- fifty-one patients (85.8%) were from Al-Gezira State, and (14.2%) from other States. Age distribution ranged from 6 months to 5 years. The male to female ratio was 1.1:1.

The most frequent F. Bs was removed by Bronchoscope (90.34%); peanuts were the commonest type of F.Bs. The success rate of removal of foreign bodies was 82.95. The mortality rate was 1.14.

Conclusions Foreign bodies (F.B) in children is a common clinical problem mainly during the first four years of the life. The most frequent F.Bs were removed by rigid Bronchoscope in which peanut was the commonest type of F.Bs.

Key word: Upper aero digestive tract Endoscopy, Preschool, Gezira State, Sudan

Background

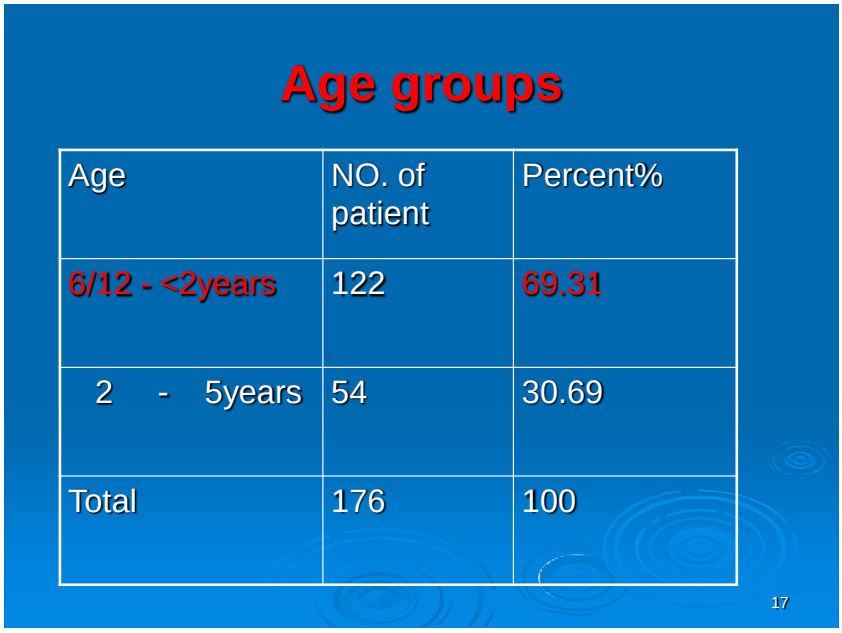
Foreign bodies (F.B), in children are a common clinical problem mainly during the first four years of their life, due to developmental factors (oral phase), anatomical and poor defense mechanism (weak cough reflex). In Gezira state F.B in the upper aero digestive tract is not uncommon among children mainly those in the preschool age. F.B s in the ear and nose, are frequently removed as an outpatient procedure rarely need sedation or anesthesia. Hypoharyngeal esophageal and bronchial foreign bodies commonly removed under general anesthesia. Otolaryngology emergencies represent between 30% and 80% of presentations seen by emergency department physicians in the United States. The most common problems are F.B esophagus and trachea-bronchial aspiration and peanuts are the most frequently aspirated food in the United States. [1] F.B in the bronchus is the most common indication for rigid endoscopy in pediatrics. [2] They present with cough, shortness of breath (S.O.B), fever, Stridor and history of aspiration. Since many of these disorders may involve upper airway compromise that can lead to respiratory failure and subsequent cardiopulmonary arrest, swift recognition and acute management of these problems are crucial. Endoscopy of the upper aero-digestive tract involves indications, techniques, and procedures shared by the disciplines of otolaryngology–head and neck surgery, anesthesiology, gastroenterology, general surgery, pediatric surgery, thoracic surgery, pulmonary medicine, and speech–language pathology. [3] F.B in the Hypopharynx and esophagus may present with history of ingestion of F.B drooling of saliva and dysphagia. With such a varied group of health-care providers performing overlapping procedures, it is no wonder that techniques and indications vary widely. As such, so do the potential complications. [3] The common sites of lodge of F.B in the esophagus are tonsils, posterior one third of the tongue pyriform fossae, posterior one third of the pharyngeal wall and the oesopgagus. [4] Any case of FB bronchus should be taken with care in specialized center. [5]

Results

In this study the total number of children was 176. One hundred- fifty-one patients **(85.8%)** were from Al-Gezira State, and **(14.2%)** from the near States as Kassala Blue Nile and Sinner states. Age distribution ranged from **6** months to **5** years, as showed in table (1). The male to female ratio was **1.1:1**, as showed in figure (1). The most frequent F.Bs was **peanuts** which were removed by Bronchoscope **(90.34%)**, as showed in table (2). Figures from (2 to 7) showing pictures of foreign bodies which were removed from different parts of upper aero digestive tract.

The success rate of removal of foreign bodies was (**82. 95%).The** mortality rate was (**1.14%), two kids.**

Table 1: Age distributions of patients presented with upper aero digestive tract.



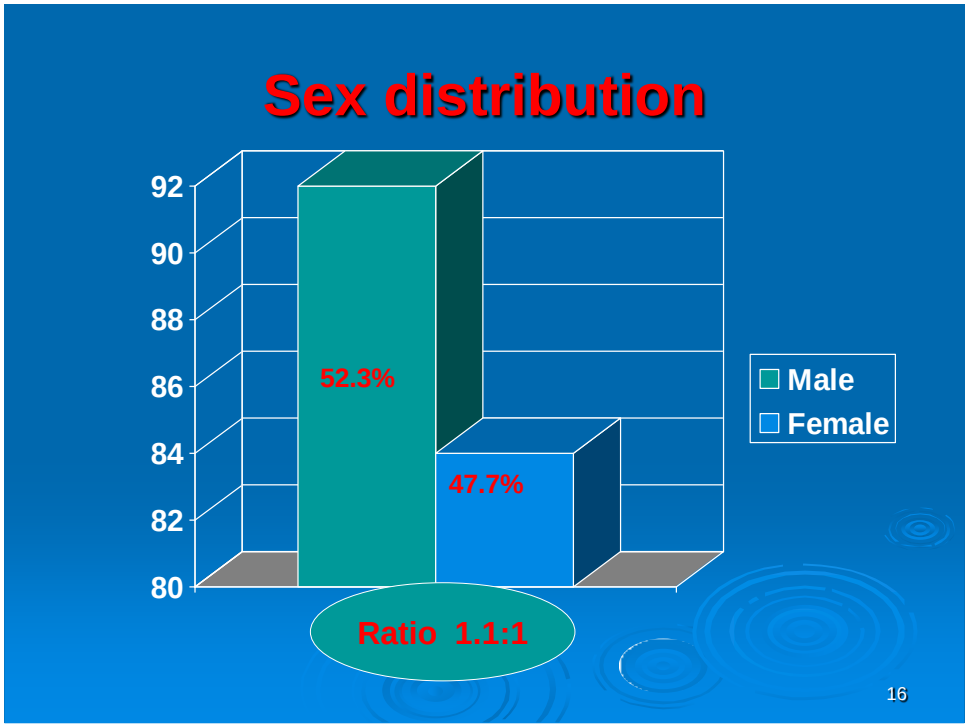


Figure 1: sex distribution patients presented with upper aero digestive tract.

Table (2): types of endoscopes done in the study patients presented with upper aero digestive tract.

Type of endoscope

Type of endoscope	NO. of patient	Percent%	Out come
Bronchoscopy	159	90.34	130
Hypopharyngoscopy	012	06.81	012
Oesophogoscopy	004	02.28	003
Pan-Endoscopy	001	00.57	001
Total	176	100	82.95

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Esophageal foreign body. This x-ray reveals a butterfly-shaped earring at the crico-pharyngeus, the entrance to the esophagus.

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Figure (2): **Esophageal foreign body.** This x-ray reveals a butterfly-shaped earring at the crico-pharyngeus, the entrance to the esophagus

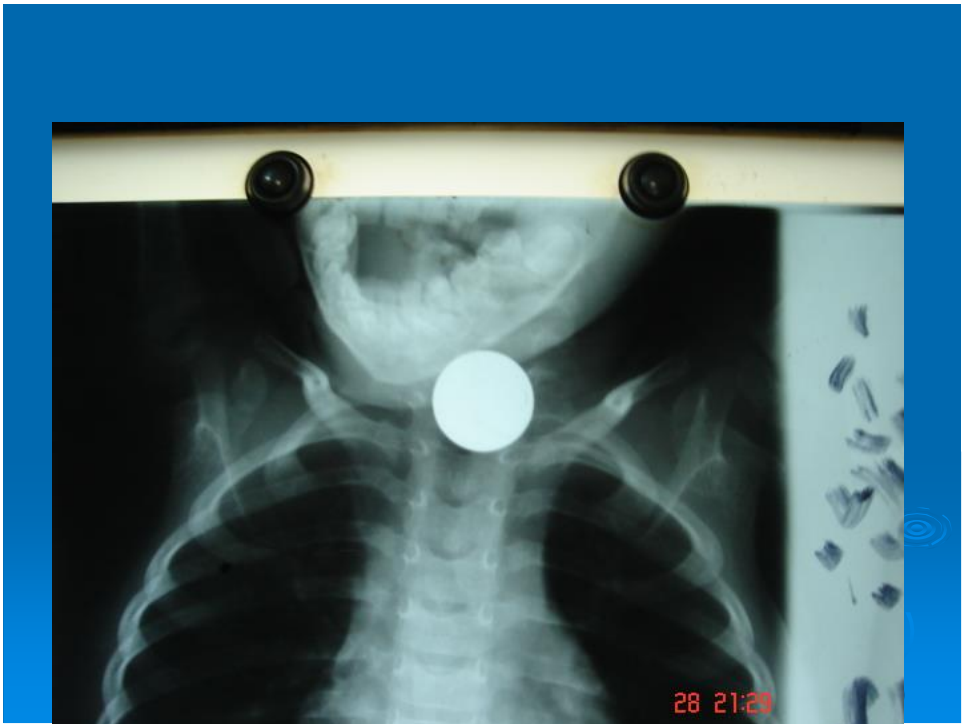

Figure (3): This x-ray anterior-posterior view; reveals a foreign body (coin) Hypo pharynx of a child.

Figure (4): **Esophageal foreign body.** This x-ray lateral soft tissue view; reveals a foreign body (coin) at the crico-pharyngeus area, the entrance to the esophagus.

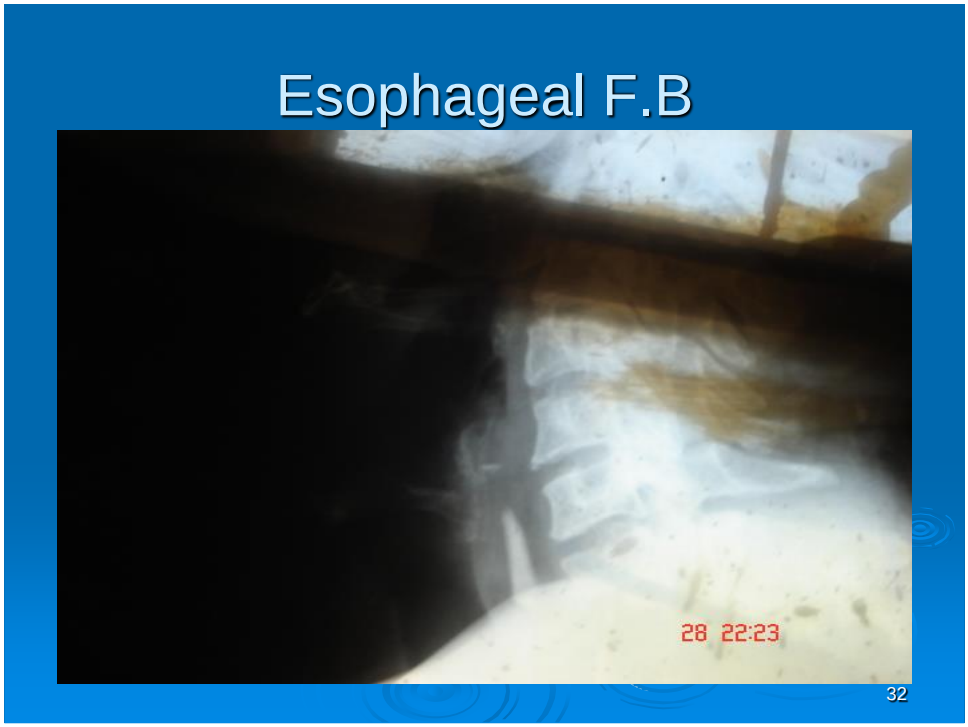

Figure (5): **Esophageal foreign body.** This x-ray lateral soft tissue view; reveals a foreign body (bone); at the cervical esophagus.

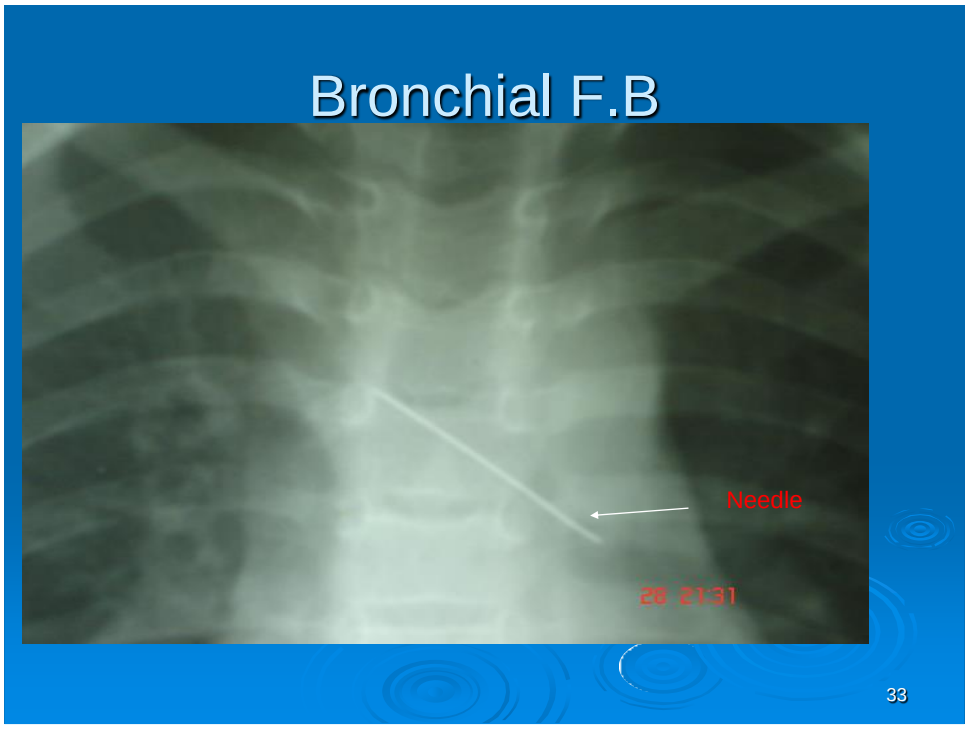

Figure (6): **Bronchial foreign body.** This x-ray anterior-posterior view; reveals a foreign body (pin); in the left main bronchus area.

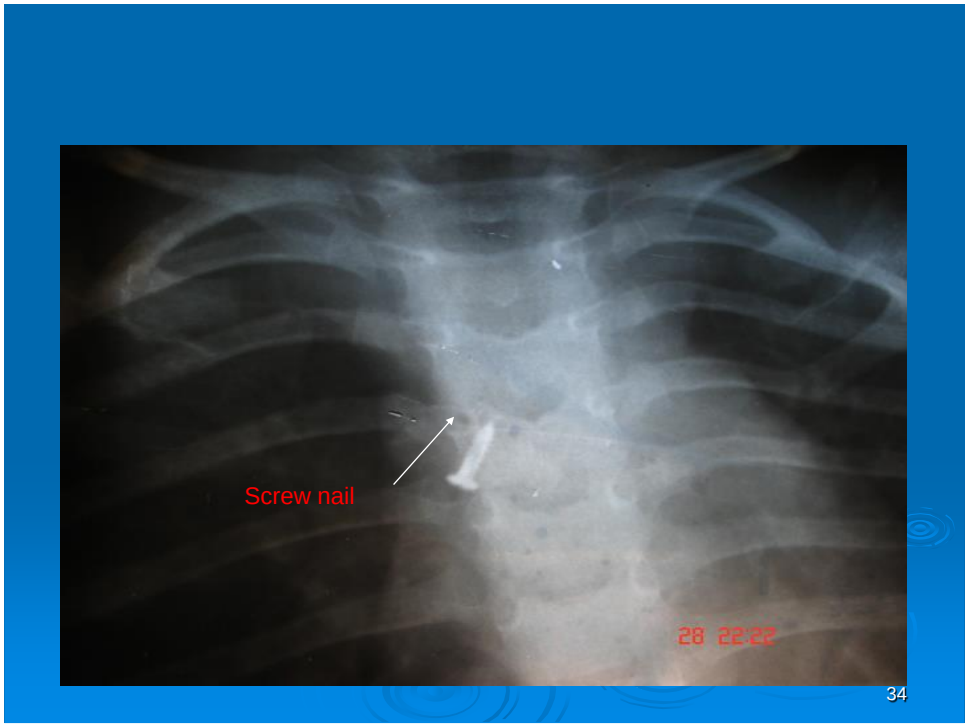

Figure (7): **Bronchial foreign body.** This x-ray anterior-posterior view; reveals a foreign body (screw nail); in the right main bronchus area.

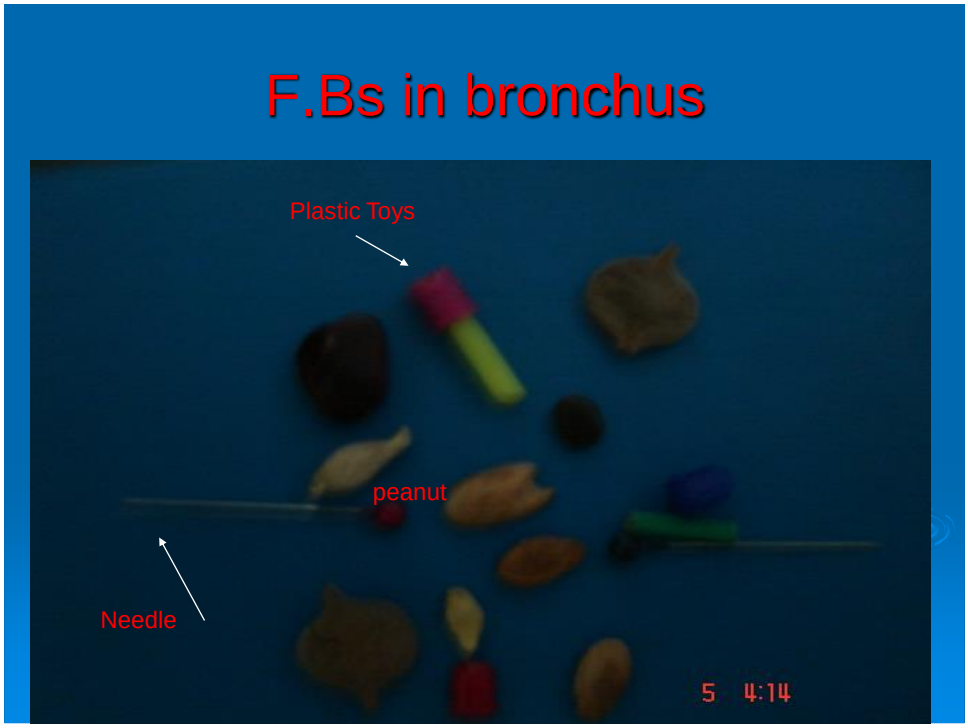

Figure (8): **The commonest foreign body can be removed from the bronchial tree.**

DISCUSSION

Foreign bodies (F.B) in children were a common medical problem mainly during the first two years (infants) of their life, due to developmental factors, anatomical and the poor defense mechanism. In these study the Foreign bodies in the upper aero digestive tract were common among children mainly those in the preschool age. F.B s in the nose and ear are frequently removed as an outpatient procedure. The most common problems are F.B in the oesophagus and tracheobronchial aspiration, and the peanuts are the most frequently aspirated food these similar to the local, regional and international studies. F.B in the bronchus is the most common indication for rigid endoscopy in paediatric. Sometimes foreign body removal may necessitate a team work. In this work the success rate of removal of foreign bodies was excellent with a low mortality rate.

Conclusion

Foreign bodies (F.B) in children is a common clinical problem mainly during the first years of their life hence we should be very careful about them and to keep an eye on them and their surroundings.
The most frequent foreign bodies in preschool children were foreign bodies' bronchus, most commonly in the first two years of age. Which were removed frequently by rigid Bronchoscope in which peanut was the commonest type of F.Bs.

Recommendations:

-To aware the community and general population about the serious complications of the Foreign bodies
- Any child with straight history of aspiration or repeated chest infection, bronchoscopy most done to exclude F.B inhalation.
- Well training of doctors about early picking and diagnose of foreign bodies and how can deal with them.
- Establish well equipped ENT departments or centers.

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