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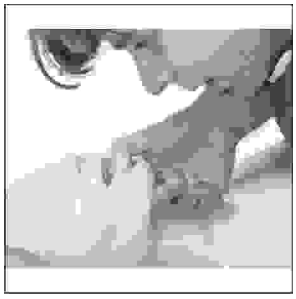
AIRWAY FOREIGN BODIES;
A RETROSPECTIVE REVIEW



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ABSTRACT…khademib@yahoo.com hameedchohedri@yahoo.com. **Objective:** To study the pattern of laryngotracheal foreign bodies in South of Iran and to compare it with other studies.. **Design:** A retrospective chart review of patients who had airway foreign body. **Period :** From 1991 to 2000. **Setting:** Department of Otolaryngology Khalili Hospital,Shiraz,Iran. **Material & Methods:** Patient characteristics including age,sex, laryngobronchoscopic findings,clinical presentations and history of foreign body aspiration were recorded .Type and site of foreign body aspirated was also recorded to determine the common type and site of foreign body enlodgement in this country. **Results:** From 1012 patients with airway foreign bodies,683 patients were male and 329 patients were female.Aspiration most commonly occurred in the 1-6 year age group.The most common presenting symptom was cough,dyspnea and chocking.The most common site of foreign body enlodgement was right bronchus and the most common foreign bodies in our area were various types of seeds. **Conclusion:** Education of physicians and public awareness are important steps needed to reduce the morbidity and mortality of foreign body aspiration.Parents should be instructed to abstain from feeding nuts and seeds to young children and to keep small,potentially ingestible objects out of their reach.

Key words: Foreign body, Aspiration, South of Iran, Laryngobronchoscopy

INTRODUCTION

Aerodigestive foreign bodies are a common emergency,specially in children[1],but it also can occur in adults.Despite significant advances in emergency airway management and endoscopic technology,airway foreign bodies still lead to significant morbidity and pose as an important cause of death in the pediatric population[1]. There is no evidence that the incidence of aspiration is declining and it is unlikely to do so as long as children continue to explore their surroundings using their

mouths[2].The timely diagnosis and management of foreign body aspiration is extremely important. Missed or delayed diagnosis can result in respiratory complications ranging from chronic wheezing or recurrent pneumonias to life threatening airway obstruction or lung abscess[3].

In this retrospective,chart review study, the pattern and type of aspirated foreign bodies in South of Iran is evaluated and compared with other studies.

MATERIALS AND METHODS

Of the 1012 cases, 683 patients were male and 329 were female. The age distribution is shown in Table I. Foreign body aspiration occurred most commonly in the 1-6years old children.

The study objective was to review airway foreign body experience in South of Iran over a 10 year period.The design was retrospective chart review of patients who had an airway foreign body removed via direct laryngoscopy and bronchoscopy from 1991 to 2000.

Patients characteristics including age,sex,history of foreign body aspiration,clinical presentation,type and site of the aspirated foreign body were analysed.

RESULTS

1012 patients with foreign body aspiration underwent direct laryngoscopy with or without bronchoscopy.683 patients were male and 329 patients were female,with male/female ratio of about 2/1.

Table-I. Age range of the patients with foreign body aspiration

Age	No of pts.	%age
< 1year	35	3.46%
1-3 years	364	35.97%
3-6 years	259	25.5%
6-15 years	121	11.96%
15-40 years	81	8%
>40 years	152	15.02%
Total	1012	100%

Age range of the patients is shown in table I with the youngest patient a 4.5 months old girl and the oldest, a 81 year old man. Foreign body aspiration was most common in children, 1-6 years of age and least common in the children less than 1 years old.

Table-II. presenting symptoms of airway foreign bodies

Presenting symptoms	No of pts.	%age
Positive Hx of FBA	850	84%
Cough	976	96.5%
Cyanosis	280	27.7%
Dysphagia	46	4.5%
Stridor	81	8%
Fever	112	11%
Repeated pneumonia	73	7.2%
Hoarsness	100	9.9%
Choking	508	50.2%
Dyspnea	670	66.2%
Vomiting	140	13.8%

850 patients (84%) had positive history of foreign body aspiration and the most common presenting symptom was cough that was reported in history of 976 patients(96.5%) .Most of the patients had more than one symptom.Presenting symptom of the patients is detailed in Table II.

Table-III. site of foreign body enlodgment and their proportion

Site of foreign body	No of pts.	%age
Glottic	12	1.2%
Subglottic	6	0.6%
Trachea	93	9.2%
Right Bronchus	514	5.8%
Left Bronchus	320	31.6%
Bilateral or more than one FB	67	6.6%
Total	1012	100%

The most common site of foreign body enlodgement was right bronchus seen in 514 patients(50.4%) and 67 patients(6.6%) had bilateral or multiple foreign bodies(Table III). The most common foreign bodies recovered during laryngoscopy and bronchoscopy were seeds(pumpkin, sunflower and watermelon) seen in 360 patients(35.6%) followed by nuts recovered in 244 patients(24.1%).

Table-IV:Types of aspirated foreign bodies

Type of foreign body	No of pts.	%age
Seeds (Pumpkin sunflower)	360	35.6%
Peanuts and other nuts	244	24.1%
Plastic F.B.	81	8%
Pen cap	14	1.4%
Safety pin	4	-
Tooth	36	3.6%
Bones	53	5.2%
Vegetables	77	7.6%
Kookie	17	1.6%
Bean	49	4.8%
Fruit (apple ..)	9	-
Leach	2	-
Pebble rock	9	-
Metalic objects (nail, screw)	35	3.4%
Not specified	22	2.1%

DISCUSSION

Of the 1012 cases, 683 patients were male and 329 were female. This greater incidence in males has been noted by others[2,4,10]. The age distribution is shown in TableI. Foreign body aspiration occurred most commonly in the 1-6years old children.

The signs and symptoms associated with foreign body aspiration are observed in three stages. In the initial stage, there is a history of a choking episode, followed by paroxisms of coughing,gagging and occasionally airway distress or sometimes complete airway obstruction. The second stage is an asymptomatic interval. The third stage is characterized by symptoms of complications[10]. In our study the most common symptoms were cough (96.5%) followed by dyspnea(66.2%) and chocking(50.2%). Chocking and cough is reported as the most common presenting symptom in several other similar studies[2,5,10]. Foreign bodies of the larynx and trachea present in a similar manner with the exception that hoarseness is a less common finding with tracheal foreign bodies. A completely obstructive foreign body in these regions usually causes sudden death. Recognition of the patient with complete airway obstruction is critical to the success of first aid efforts.Coughing, gagging and throat clearing are reflexes that protect the airway and may indicate that obstruction is not total. First aid delivered to such a patient may be potentially dangerous and may convert a partial airway obstruction to a complete obstruction.

Complete airway obstruction may be recognized in the conscious child as sudden respiratory distress followed by an inability to speak or cough. When complete obstruction is identified,prompt delivery of first aid is indicated.

The spectrum of airway foreign bodies varies from country to country depending on the diet and custom of the population. Distribution of foreign bodies in our patients is shown in table IV. The most common foreign body aspirated in our area was various types of seeds,which is similar to some other studies[5,6]. In other studies, peanuts were recovered most commonly during bronchoscopy[10,7,8].

Most foreign bodies pass through the larynx and trachea to become lodged more peripherally in the airway however large foreign bodies or those with sharp, irregular edges may become lodged in the laryngeal inlet. The site of foreign bodies in our study is shown in table III.As in many other studies[10,6-9], the most common site of foreign body dislodgement was right bronchus.

CONCLUSION

Despite significant advances in diagnostic aids,airway management, and endoscopic technology, airway foreign bodies still lead to significant morbidity and pose as an important cause of death in the pediatric population. A history compatible with foreign body aspiration dictates diagnostic endoscopy with or without radiologic confirmation.

Education aimed at increasing diagnostic acumen of the physicians and heightening of public awareness are the most important steps needed to reduce the morbidity and mortality. Parents should be instructed to abstain from feeding nuts and seeds to young children and to keep small,potentially ingestible objects out of their reach.

REFERENCES

1. Brkic F,Delibegovic-Dedic S,Hajdarovic D. **Bronchoscopic removal of foreign bodies from children in Bosnia and Herzegovina:experience with 230 patients.** Int J Otorhinolaryngol 2001,28;60(3):193-6.

2. Rothmann B.F, Boeckman C.R. **Foreign bodies in the larynx and tracheobronchial tree in children.** A review of 225 cases,Ann Otol Rhinol Laryngol 1980;89:434-436.

3. Lowe D,Russell R.I. **Tracheobronchial foreign bodies,the position of the carina,**J Laryngol Otol 1984;98:499.

4. Brown B.S.T.J, Ma H, Dunbar J.S, MacEwan D.W. **Foreign bodies in the tracheobronchialtree in chilhood.** J Assoc Can Radiol 1963;14:158-171.

5. Siddiqui MA,Banjar AH,Al-Najjar SM,Al-Fattany MM,Aly MF. **Frequency of tracheobronchial foreign bodies in children and adolescents.** Saudi Med J,2000;21(4):368-71.

6. Eren S,Balci AE,Dikici B,Doblan M,Eren MN. **Foreign body aspiration in children:experience of 1160 children.** Ann Trop Paediatr 2003;23(1): 31-7.

7. Sehgal A,Singh V,Chandra J,Mathur NN. **Foreign body aspiration.** Indian Pediatr 2002;39(11):1006-10.

8. Lima JA,Fischer GB. **Foreign body aspiration in children.** Paediatr Respir Rev 2002;3(4):303-7.

9. Swanson KL,Edell ES. **Tracheobronchial foreign bodies.** Chest Surg Clin N Am 2001;11(4):861-72.

10. Tan H.K.K, Brown K,McGill T,Kenna M.A,Lund D.P,Healy G.B. **Airway foreign bodies:a 10-year review,** Int J Pediatr Otorhinolaryngol 2000;56:91-99.

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