

Foreign Bodies of the Tracheobronchial tree and Esophagus

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The occurrence of aspirated or ingested foreign bodies is increasing without any appreciable change in the morbidity and mortality (1). In the present communication an analysis of 850 cases of foreign bodies in the air and food passages is presented. Of these 850 cases, 800 belong to the E.N.T. department and 50 to the department of Pediatrics.

MATERIALS AND METHODS

All patients admitted between March 1968 to March 1973 were included in the study. Cases with the diagnosis of reactive airway or esophagus diseases in which no foreign body was recovered were discarded from the study.

DIAGNOSIS

1. Foreign body of the esophagus. The diagnosis is relatively easy. It is based on history of the ingestion of a foreign body which caused chest or throat discomfort, nausea, vomiting, excessive salivation and dysphagia. In adult patients a history of alcoholic intake associated with lack of proper dentures was not unfrequent, pain, although present in all cases, was not

always severe and very disturbing. Esophageal obstruction due to bolus of food was verified by the patient inability to drink water without regurgitation. The absence of acid in regurgitated food and water confirmed the fact that it did not enter the stomach. Careful examination of the pharynx eliminated any obstruction in the upper swallowing passages. Routine X-Ray examination, taken in the lateral projection, of the chest and neck visualized retained radiopaque material.

2. In the cases of foreign bodies of the air passages, symptoms were vividly recalled. They consisted of wheezing, coughing, and sudden onset of "asthma" has increased over the past decade. All patients had inspiratory and expiratory X-Ray. Expiration was enforced and held by pressure by hand in epigastrium. Some patients had atelectasis of one lung or one lobe and patients had serious episodes of respiratory arrest. This happened presumably when the foreign body was coughed into the other main stem bronchus. Again X-Ray examination has been shown to be most helpful for the diagnosis.

TREATMENT

Foreign bodies in the esophagus were removed by the use of esophagoscopy under general anesthesia with an endotracheal tube in place. In few cases local anesthesia were enough to remove the foreign body. However, anesthesia usually was performed with Sodium thiopental. The drug was used intravenously at a concentration of 2.5% at the sleeping dose. In few cases in which inhalation was necessary,

In few cases in which inhalation was necessary, anesthesia was induced with 200-300 mg thiopentone, depending on the physical build and state of the patient. Complete relaxation was obtained with 30-50 mg suxamethonium. Ventilation was then carried out with oxygen for 2 to 3 minutes. Thenafter, local spray was used (3-4 ml of 4% lignocaine solution). Topical analgesia helps to prevent laryngeal spasm on withdrawal of the bronchoscope as well as foreign bodies. When general anesthesia was required the

inhalation method with active respiration proved to be the safest choice.

Preoxygen with 100 % oxygen for 2-3 minutes was used. Thiopentone or similar intravenous agent should not be used for induction. This is also true in the case of relaxants which are used to facilitate the intubation. However intravenous barbiturates or relaxants may be used when the anesthetist is convinced that there is an adequate airway for the passage of the laryngoscope and endotracheal tube. Few patients of these groups have shown agitation, laryngospasm, anoxia which were due to obstruction by foreign bodies. The safety of a thiopentone-relaxant combination depends upon the ability to inflate the lungs when apnea occurs.

Injection of suxynylcholine in two patients with anoxia resulted in cardiac arrest in two cases.

It is suggested that general anesthesia with an inhalation method with active respiration is the safest choice. General anesthesia was induced by halothane. Premedication was atropine sulfate. with confirmation of a foreign body in the tracheobronchial tree, treatment of choice has been extraction by bronchoscopy under general anesthesia.

RESULTS

From a total of 850 cases of foreign bodies in the air and food passages (FBAFP) 34 died (4.1 %) on the way or soon after arrival to the hospital. We have had no death in patients survived 2 hours after arriving to the hospital. The age distribution of FBAFP is presented in table 1. As shown in the table most cases we encountered were children at age 1-6 (82 %). Of 50 cases studied in the department of pediatrics 35 had foreign bodies in the air way and 15 had foreign bodies in food passages. Among 800 cases studied in the ENT department these figures were 320 and 480 respectively. The sex distribution for both children and adult groups were approximately equal with a small predominance in male subjects.

The objects found in esophagus and air way passages of adults and children are presented in the table 2. Figures 1 and 2 show the sample of

objects find in air and food passages.

Table 1

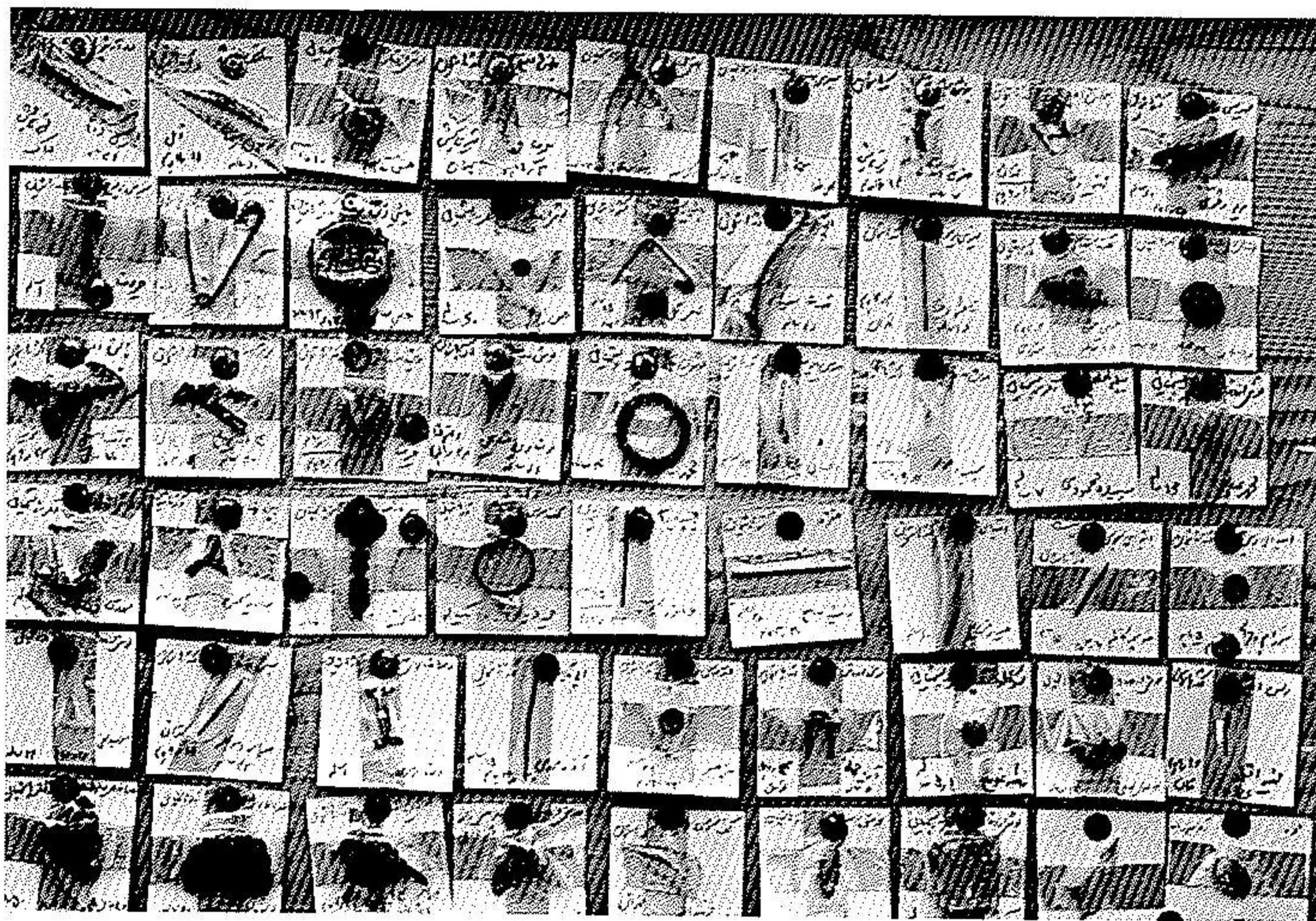
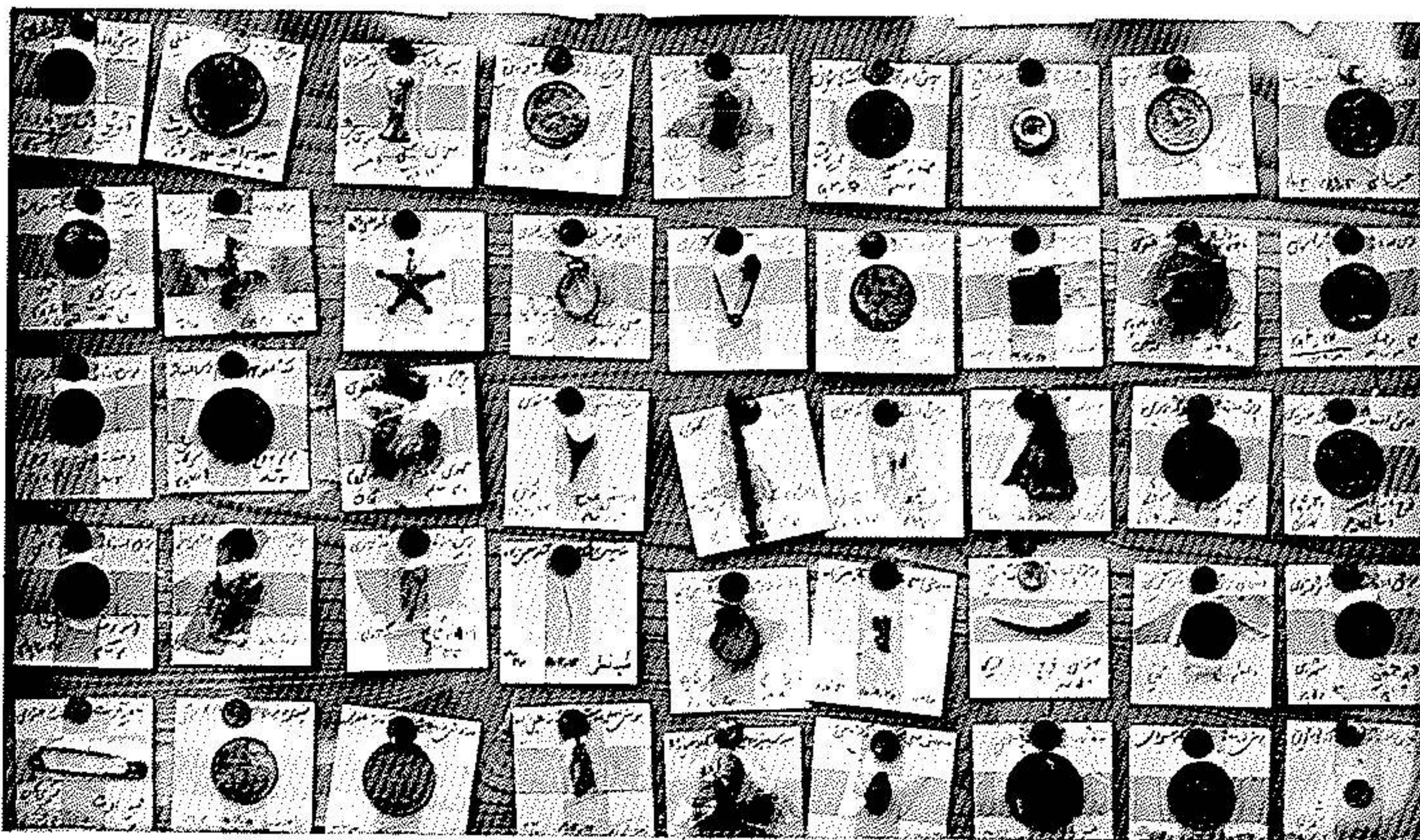
Age distribution of foreign bodies in the air and food passages in 850 subject

Age of child	No. of cases	Age of adult	No. of cases
0-6 mo	1	15-20 yr	87
6-12 mo	3	21-30 yr	131
12-18 mo	8	30-40 yr	208
18-24 mo	12	41-50 yr	371
< 3 yr	11	51-60 yr	45
< 4 yr	7	61-70 yr	39
< 5 yr	3	71-80 yr	6
> 5 yr	5	> 80 yr	0
Total	50		800

Table 2

Foreign bodies in the air and food passages

Object	Pediatric	Adult
Coin	14	313
Bone	9	239
Button	7	66
Tack	6	19
Leech	6	37
Micellaneous	8	129
Total	50	800



DISCUSSION

The results of the present report is in accordance with those reported previously (2 and 3) except in the case of leech as a foreign body which has not been shown to be unfrequent in our observations.

Most aspirated or swallowed foreign bodies of the air or food passages are treated by urgent endoscopic removal. The most important factor for reducing the mortality of these accidents is the early hospitalization of the patients.

The incidence of these accidents is seen more in children than adults. No appreciable sex difference was noted.

General anesthesia is recommended when foreign body is located in the bronchial tree of the children.

SUMMARY

Report of 850 cases of foreign bodies in the air and food passages is presented. The incidence of the accident was more in children between the age of 1-6 years than others. No sex difference was noted for the incidence of the accident. The presence of leech as a foreign body in this report is of interest. General anesthesia is recommended in the case that foreign bodies are present in the air way of children. In these cases bronchoscopy with oxygenation by insuflation in brochoscope or Ventury 50 or other similar techniques is recommended.

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