

INCIDENCE OF FOREIGN BODY IN OTOLARYNGOLOGY SECTION IN HASAN SADIKIN GENERAL HOSPITAL, DURING PANDEMIC ERA

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Abstract

Foreign bodies in the ears, nose, and throat are one of the most common cases in the otolaryngology emergency unit in a hospital. Delays in treatment can lead to increased morbidity and mortality. This study aims to determine the characteristics of patients with foreign bodies in the ears, nose, and throat is a retrospective and cross-sectional study, conducted in Hasan Sadikin General Hospital Bandung. The data obtained by total sampling from medical record data of patients with a foreign body diagnosis in the inpatient room and emergency room at Hasan Sadikin Bandung General Hospital for the period January 2020–December 2021 were included. Out of 342 patients, the largest age group was 2-10 years (52.2%) and male (54.9%) is the most common gender. The most common complaint in patients with foreign bodies is nasal congestion (28.6%) and the nose (33%) is the most common location for foreign bodies. The most common types of objects in this study were plastic toys (21.9%). For future studies, we recommend the medical record data be written completely and in detail.

Keywords: Foreign body; Otolaryngology

Introduction

Foreign bodies in the ear, nose, and throat can be caused by various types, consisting of organic and inorganic. Research by Figueirado et al., it was stated that the most common foreign bodies objects in ear, nose, and throat was beads consisting approximately 17% of cases. In the case of foreign body beads in the ear, it was found in 23.11% of cases, while in the case of nasal foreign body beads were found in 14.76% of cases.¹ Pulpa et al. study conducted in Palembang, Indonesia shown there were 20 cases of foreign bodies in the tracheobronchial tree, which is dominated by women (55%), where ages 0 to 15 years were the most patients. The most common foreign objects found were toys and plastic objects. Most foreign body were found in the trachea was 8 cases (40%).² Another survey states that foreign body aspiration causes 7% of sudden deaths in children younger than 4 years. An Otorhinolaryngology department in the United States states that the incidence of mortality in children due to foreign bodies reached 4,100 cases in 2006 or 1.4 per 100,000 cases.^{3,4}

In this study, there were 5 foreign body patients with COVID-19, including three cases in oesophagus, consisting of a dog fruit found in a patient, a tooth found in in two patients, a ring found in a patient, and a battery found in the nasal cavity in a patient.

The risk of mortality and morbidity in the occurrence of the foreign body in the otolaryngology field are serious matter. This shows that the diagnosis and management of foreign body cases in the ear, nose, and throat are very important to be understood by all health workers.^{5,6} Errors when making a diagnosis often occur due to a lack of information about the onset, duration, and detailed events, which are caused by similar symptoms resembling other illnesses such as asthma, pneumonia, upper respiratory tract infections, or persistent cough.^{3,4}

Foreign bodies in the ears, nose, and throat are one of the most common cases in the otolaryngology emergency unit of Hasan Sadikin General Hospital Bandung. This study aims to

describe the characteristics of patients with foreign bodies in the ears, nose, and throat at the Hasan Sadikin General Hospital Bandung in the period January 2020 to December 2021.

Method

This study is a descriptive study with a retrospective method to describe of the incidence of foreign bodies in the ears, nose, and throat. The sampling technique used was a total sampling from medical record data of patients with a foreign body diagnosis at Hasan Sadikin General Hospital Bandung for the period January 2020–December 2021.

The inclusion criteria were in the form of medical record data of patients with foreign bodies in the ears, nose, and throat in the inpatient and emergency room of Hasan Sadikin General Hospital Bandung in the period January 2020–December 2021. Meanwhile, the exclusion criteria were incomplete or missing medical record data.

The data taken from the patient's medical record were age, gender, education, occupation, chief complaint, location of foreign body, and type of foreign body. Data will be analyzed using descriptive statistics. The data will be processed using statistical software (Microsoft® Excel 2019 and IBM® SPSS® version 22) and displayed in the tables.

Results

The research subjects consisted of 373 medical record data which included the inclusion criteria, as many as 342 medical record data and exclusion data as many as 31 medical record data according to the criteria of the research subject.

General characteristics of subjects can be seen in Table 1 with the characteristics recorded in this study including age, gender, education, and occupation.

Table 1. Characteristics of Patients with Foreign Body in Ear, Nose, Throat, Head and Neck

Characteristics	Total (342)	(%)
1. Gender		
• Male	188	54.9%
• Female	154	45.1%
2. Age		
• 0 – 1 year old	4	1.3%
• 2 – 10 years old	178	52.2%
• 11 – 20 years old	41	11.9%
• 21 – 60 years old	102	30.1%
• ≥60 years old	15	4.5%
3. Education		
• Preschool	150	43.9%
• Primary school	58	16.9%
• Junior high school	27	7.8%
• Senior high school	76	22.2%
• University	31	9.2%
4. Occupation		
• Civil servants	5	1.5%
• Private employees	47	13.7%
• Self-employed	19	5.5%
• Farmer	-	0%
• Retired	2	0.6%
• Student	78	22.8%
• College student	9	2.7%
• Housewife	25	7.3%
• Unemployed	157	45.9%

Male subjects were more frequent found in this study, including 54.9% male participant and 45.1% female participant.

The highest age group is in the age group of 2–10 years old as many as 178 patients (52.2%), followed by the age group 21–60 years old many as 102 patients (30.1%).

The majority of the subjects' education level were 150 patients (43.9%) of preschool, followed by 76 patients (22.2%) senior high school.

The total subjects of this study were mostly unoccupied as many as 157 patients (45.9%), students as many as 78 patients (22.8%).

Table 2. Chief Complaint and Location of The Foreign Body

Characteristic	Total (165)	(%)
1. Chief Complaint		
• Ear		
- Clogged ears	76	22.2%
- Hearing disorders	9	2.6%
- Bleeding from the ear	8	2.4%

• Nose		
- Unilateral runny nose	13	3.8%
- Bilateral runny nose	0	0
- Nasal congestion	98	28.6%
- Smelly nose	0	0
- Nose pain	2	0.6%

• Throat		
- Painful swallowing	53	15.5%
- Choking	4	1.3%
- Feeling stuck	71	20.7%
- Hard to breath	8	3.2%

2. Location of Foreign Body

• Ear		
- Right Ear	60	17.5%
- Left Ear	33	9.4%

• Nose		
- Right Nose	71	20.6%
- Left Nose	42	12.8%

• Throat		
- Pharynx	38	11.6%
- Larynx	3	0.8%
- Trachea	2	0.5%
- Right Bronchus	6	1.7%
- Left Bronchus	3	0.8%
- Esophagus	84	24.4%

The chief complaint of patients with foreign bodies in the ears was blocked ears as many as 76 patients (22.2%). The most complaints of the nose were nasal congestion as many as 98 patients (28.6%).

A feeling there was lump in the throat was the most common complaint in the throat as many as 71 patients (20.7%), pain in swallowing as many as 53 patients (15.5%).

Most foreign bodies were found in the right ear in of sixty (17.5%) patients and in the left ear in as many as 33 (9.4%) patients. The nose was found 71 (20.6%) in the right nose and 42 (12.8%) in the left nose. Foreign bodies have also been found in the esophagus (24.4%) and pharynx (11.6%).

Table 3. Type of Foreign Body

Type of Foreign Body	Total (342)	(%)
1. Ears		
a. Organic		
• Peanut	2	0.6%
• Grains	4	1.2%
• Insect	20	5.8%
b. Non-organic		
• Cotton	48	14.0%
• Plastic toys	13	3.8%

• Beads	6	1.7%
2. Nose		
a. Organic		
• Peanut	10	2.9%
• Insects	2	0.6%
b. Non-organic		
• Battery	4	1.2%
• Plastic toys	58	16.9%
• Beads	24	7.0%
• <i>Tasbih</i>	14	4.1%
• Bullet	1	0.3%
3. Throat		
Pharynx		
a. Organic		
• Chicken bones	4	1.2%
• Fish bones	21	6.1%
b. Non-organic		
• Needle	4	1.2%
• Plastic toys	2	0.6%
• Dentures	5	1.5%
Larynx		
a. Organic	0	0
b. Non-organic		
• Needle	3	0.9%
oesophagus		
Organic	0	0
Non-organic		
• Needle	2	0.6%
nasopharynx		
Organic		
• Peanut	1	0.6%
Non-organic		
• Needle	4	1.2%
• Straw	1	0.3%
• Nail	3	0.9%
esophagus		
Organic		
• Beef	9	2.6%
• Liver gizzard	1	0.3%
• Clam	1	0.3%
• Chicken bones	5	1.5%

• Gravel	1	0.3%
Non-organic		
• Dentures	19	5.6%
• Coin	38	11.1%
• <i>Seblak</i> crackers	1	0.3%
• Needle	5	1.5%
• Marbles	2	0.6%
• Plastic toys	2	0.6%

Insects were found in the ears of up to 20 patients (5.8%), and eggs were found in the ears of 4 patients (1.2%). In 48 cases (14.0%), cotton and plastic were the most foreign bodies found in the ears.

On the nose, 10 patients (2.9%) had peanuts and 2 patients (0.6%) had insects. Plastic toys were found in the noses of 58 patients (16.9%), beads were found in 24 patients (7.0%), and prayer beads were found in 14 patients (4.1%).

The throat has 5 different parts: the pharynx, the larynx, the airway, the bronchi, and the esophagus. Most of the foreign bodies in the pharynx were fish bones, which were found in 21 patients (6.1%), and chicken bones, which were found in 4 patients (1.2%). Prosthetic teeth and needles were found in 5 patients (1.5%) and 4 patients (1.2%), respectively. Three cases (1.2% of the total) had needles in their larynx. Peanuts were found in the airways of 1 patient (0.3%). Needles, nails, and straws were found in the bronchi of 4 patients (1.2%), 3 patients (1.2%), and 1 patient (0.6%), respectively. In the oesophagus, beef was the most common foreign body in 9 patients (2.6%), and chicken bones were the most common foreign body in 5 patients (1.5%). Most of the non-organic foreign bodies found in the oesophagus were coins (11.1%) and teeth (5.6%).

Table 4. Type of Foreign Body in patients with COVID-19

Type of Foreign Body	Total (5)	(%)
1. Nose		
Non- biological		
• Battery	1	1.2%
2. Throat		
oesophagus		
Organic		
• <i>Jengkol / dog fruit</i>	1	2.6%
Non-organic		
• Prosthetic tooth	2	5.6%
• Ring	1	11.1%

In this study, there were in total 5 foreign bodies patients with COVID-19, including one patient with dog fruit stuck in esophagus, two patient with denture in the esophagus, one patient with ring in the esophagus, and the other has button battery in the nose.

Discussion

In this study, there were 342 medical records of patients with foreign bodies in the ears, nose, throat, head and neck and 5 medical records of foreign bodies patients with COVID-19 at Hasan Sadikin General Hospital Bandung for the period January–December 2020 that met the inclusion criteria.

During the body foreign extraction in patients with COVID-19, operator is required to wear personal protective equipment, such as respirator N95 or FFP2 or FFP3 standard or equivalent, gown, gloves, eye protection, apron, and perform hand hygiene.⁷ According to CDC, healthcare should fit the flexible band of respirator to nose bridge and snug to face and below chin, then assure no air is coming in or out other than through the respirator. The gown should fully cover the chest, from the neck to the knees, the arms to end of the wrists, and wrap around the back, then fasten in the back of the neck and the waist. Eye protection, such as goggles or face shield should cover face and eyes and be adjusted to fit. Gloves should extend to cover the wrist of the isolation gown.⁸

The largest age group is 2–10 years as many as 178 people (52.2%). The number of male patients was 188 people (54.9%) which was the highest in this study compared to 154 women (45.1%). The same result occurred in a study conducted by Ricardo in 2008 which got the highest presentation at the age of 1–10 years where the highest number of males was found.¹ Several studies have shown that the age of children is the highest prevalence in cases of foreign bodies in the ear, nose, throat, head and neck this is caused by the nature of children's nature play with objects and their curious attitude towards the surrounding environment. According to research conducted by Xu Ying, children tend to insert foreign objects into their bodies due to lack of parental supervision, are still in the oral phase and are in the exploratory age stage.⁹

Most of the subjects don't have an educational background (43.9%) and 157 patients are not working (45.9%). This is related to the age of the children who have not gone to school and have not worked. This study is in accordance with that conducted by Jiraporn which was conducted in 2019, the most foreign body patients at the age of children, under 12 years.¹⁰

The location of the most foreign bodies in this study was in the nose. This is in accordance with the results of research conducted by Bhatta in 2017 which said that foreign bodies were most commonly found in the nose.¹¹ In contrast to research conducted by Taiwo in 2017 which stated that foreign bodies were most commonly found in the ears.¹² Children often insert a foreign object into the nose, because the nose is the organ in the body part that is most easily accessible and the discovery of foreign objects is often in accordance with the use of the dominant hand.

The most common complaint in this study was nasal congestion. This is in accordance with research conducted by Bhatta in 2017.¹¹ According to research conducted by Belinda in 2017, many foreign bodies were found in the right nose due to the dominant use of the right hand. Complaints of nasal congestion caused by the foreign object covering the nasal cavity and edema of the nasal cavity mucosa due to the previous removal of the foreign body. Another major complaint in the nose is unilateral runny nose because the patient only inserts a foreign body in one nasal cavity which is a characteristic of patients with foreign bodies, complaints of pain in the nose caused by bullets hitting the nasal cavity. The chief complaint in the ear is clogged ears because at the age of children the ear canal is still small and a foreign object covers the ear canal, the other complaint of the foreign body in the ear is hearing loss due to a foreign object covering the entire nostril resulting in obstructed sound transmission, the last ear complaint is bleeding of the ear from trying to remove the foreign body but failing.

The most common complaint in the throat is a feeling of lump, caused by the foreign object covering the feeding channel in the oropharynx or esophagus, then the other main complaint in the throat is painful swallowing because the foreign object causes sores or punctures the throat, shortness of breath. Caused by an inflammatory reaction against a foreign body, causing mucosal edema.

Non-organic foreign objects were the most common types of foreign objects found in this study, around 75.7%, plastic toys were the most non-organic foreign objects at 21.9%. Foreign bodies of dentures as much as 7% were found in adults, this was due to the denture hooks that had been damaged and the denture structure was not suitable. On the other hand, needle found in the bronchi are caused by the patient biting the needle and then accidentally choking. Other foreign objects, like coin were found by 11.1% are caused by the children's habit of playing with objects. The most organic foreign bodies were fish bones by 6.1%. This is because the shape of the fish bones is small, sharp and often not visible when eating. Beef foreign bodies were found as much as 2.6% in the esophagus, this was caused by the chewing process in a hurry. In contrast to the research conducted by Gawarle in 2016 which stated that the most common types of organic foreign bodies found were nuts.¹³ This is because most patients with foreign bodies in the ears, nose, throat, head and neck are children who often play with plastic toys and lack parental supervision.

As a conclusion, the largest group was found at the age of 2–10 years and male is the most common gender in patient with foreign bodies in the ears, nose, throat, head and neck. The most common complaint in patients with foreign bodies is nasal congestion and the nose is the most common location for foreign bodies. The most common types of foreign body found in this study were plastic toys. We recommend the medical record data to be written in detail so that the data needed for further research is easier to obtain.

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