

Original Research Article

Nasal foreign bodies: our experience

Rakesh Sharma*, Abhishek Malhotra

Department of ENT, Government Medical College, Kathua, Jammu and Kashmir, India

Received: 21 September 2021

Revised: 07 October 2021

Accepted: 08 October 2021

*Correspondence:

Dr. Rakesh Sharma,

E-mail: drakishsharma@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: The experience of a mother of a child with a foreign body stuck in its nasal cavity can be quite panicky and horrifying. The nasal foreign bodies are one of the commonest emergencies in the department of otorhinolaryngology. The common foreign body objects that are removed from the nasal cavity includes beads, pencil butts, peas or other grains, seeds, sponge, stones, paper bits, erasers, metallic objects, crayons, batteries.

Methods: An observational prospective study was performed at the department of otorhinolaryngology, government medical college, Kathua, Jammu and Kashmir. In this study we examined 120 cases of foreign body nose that had presented to us from March 2019 up to March 2020. Once detected a written consent was obtained from the patient's attendants after duly explaining the involved risks to the child. Thereafter the foreign bodies were removed using appropriate instruments. Microsoft Excel tool were used to analyze and interpretate the data.

Results: Amongst the 120 patients, there were 23 adults and 97 children under 10 years. Study included 72 males and 48 females. The 86 patients had a clear history of foreign body insertion. The 12 patients were brought to our OPD with history of a long standing unilateral nasal discharge. The 12 patients had presented with history of epistaxis. Eight patients had presented with headache and recurrent episodes of rhinorrhea. Two cases presented with symptoms of pain over the nasal bridge and swelling. In our study 86% of the patients were brought with a history of foreign body insertion and only 14% a foreign body was detected when the child had presented to the outpatient department with nasal complaints. Amongst the patients 88 of them (74%) had presented with foreign bodies in their right nostril.

Conclusions: Any history of insertion of a foreign body inside the nose should be thoroughly investigated. Appropriate clinical examination and diagnostic nasal endoscopy (wherever indicated) should be done. Appropriate instrument should be selected and used for foreign body removal.

Keywords: Foreign body, Nasal cavity, Nasal endoscopy, Eustachian catheter, Anterior rhinoscopy, Nasal speculum

INTRODUCTION

The experience of a mother of a child with a foreign body stuck in its nasal cavity can be quite panicky and horrifying. Although most of it is due to the bond with the child coupled with the responsibility as a parent. More often than not the mothers and even the attendants of the child are unaware of the impending complications if the nasal foreign body is taken lightly.¹ With many attempting to remove it all by themselves and few resulting in the slipping of the foreign body back into the

nasopharynx and at times into the food passage. Or even worse the trachea. Therefore, it did make sense to evaluate and present our experiences as the treating experts with regards to the patients who had presented to us with foreign bodies in the nose.

Many patients report to the outpatient or emergency immediately in case the attendants are aware of history of the child having inserted an object inside the nose. But once ignored, the patient invariably over a period of time comes to the ear nose throat (ENT) outpatient with

complaints of a one-sided nasal discharge with a typical offensive odor. At times the discharge can be tinged with blood.

It is a dictum that "If a child presents with unilateral, foul-smelling nasal discharge, foreign body must be excluded."² At times it is an X-ray PNS that detects a foreign body inside the nose, if the foreign body happens to be radio opaque. However certainly a unilateral blood-stained discharge does also warrant ruling out certain other pathologies like the chronic rhinosinusitis, rhinomyiasis, diphtheria or even a rhinolith.³

The common foreign body objects that are removed from the nasal cavity included beads, pencil butts, peas or other grains, seeds, sponge, stones, paper bits, erasers, metallic objects, crayons, batteries.^{4,5}

The foreign bodies can be organic and inorganic. It has been observed that the foreign body that is organic in nature causes more nasal mucosa irritation presenting with symptoms much earlier in comparison to the inorganic foreign bodies. The nasal foreign bodies do account for a major chunk of the emergencies in the department of otorhinolaryngology. In fact, they are the second most common foreign bodies that we encounter in our ENT practice. The commonest one being the ones impacted in the ear.

At times foreign objects can remain lodged inside the nose with little damage. But in some cases, they can lead to severe mucosal irritation or even ulcer formation and nose bleeding. Mostly it is the organic type of foreign bodies. Since they soak up water from the adjoining tissues to swell up. If ignored they become firm eventually leading to rhinolith formation due to continuous mineral deposition whereby the foreign body turns firm and stone like, causing more damage to the surrounding structures.^{6,7}

The nasal foreign bodies are encountered both in children as well as in adults. However, the nasal foreign body is more common amongst children in comparison to the adults. The reason could be unintentional wherein by sheer chance the foreign body gets inserted in to the nose or an actual curiosity driven shoving of the object inside the nose, something that can be expected from the toddlers. Especially when left unattended with small objects that can be easily inserted inside the nostrils.

The nasal foreign bodies have a predilection of getting stuck at two sites inside the nasal cavity. One is below the inferior turbinate and the other site being in front of the middle turbinate.

METHODS

An observational prospective study was performed at the department of otorhinolaryngology, government medical college, Kathua, Jammu and Kashmir. In this study we

examined 120 cases of foreign body nose that had presented to us from March 2019 up to March 2020.

All the patients who had presented to us were subjected to a detailed history taking and a thorough clinical evaluation. The clinical examining was done using a bright high quality xenon light source. The examination included vestibular region examination by lifting the nose with the help of examiner's thumb. In cases where the foreign body was not visible on vestibular examination, this was followed by anterior rhinoscopy using the thudicum nasal speculum, which mostly lead to visualization of the foreign body.

Occasionally when even on anterior rhinoscopy, the foreign body was not visualized the patient was made to go through diagnostic nasal endoscopy. The clinical examination also included otoscopy wherein the tympanic membrane was evaluated to rule out any secondary effects of the nasal foreign body, especially long-standing ones. However, the fact that presence of an unhealthy tympanic membrane could also be independent of the nasal foreign body was always borne on our minds. All the patients who had presented with history of foreign body inside the nose, their chests were auscultated to the rule out any wheeze or reduced air entry inside their lungs.

Once detected, a written consent was obtained from the patient's attendants after duly explaining the involved risks to the child. Thereafter the foreign bodies were removed using appropriate instruments. For objects like beads, peas, eraser, crayons, pencil butts a Eustachian catheter was used. Reason being that it has smooth edges and is non traumatic. It can be easily maneuvered beyond the foreign body and then easily withdrawn along with the object. In case of paper bits, we used forceps to pluck them out with utmost care and precaution. In one case of rhinolith the patient had to be induced under general anesthesia for removal of the impacted rhinolith. The patient required anterior nasal packing and hospitalization for three days. The patient was discharged on the third day after the removal of the anterior nasal packing.

RESULTS

Amongst the 120 patients that had presented to us in the department, there were 23 adults and 97 children less than 10 years of age.^{1,2} This included 2 infants less than one year age group with a suspected foreign nasal foreign body, history of insertion of a foreign body with immediate reporting to the hospital.

Our study included 72 males and 48 females. Now whether this is some kind of a gender predilection or not, it's debatable. But a possible explanation to this could be the male children being naughtier and more likely to engage in such exploratory acts in comparison to the female counterparts.

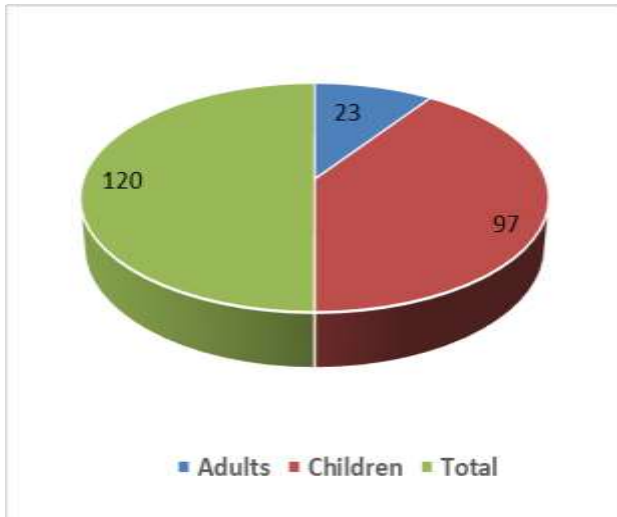


Figure 1: Adult children ratio.

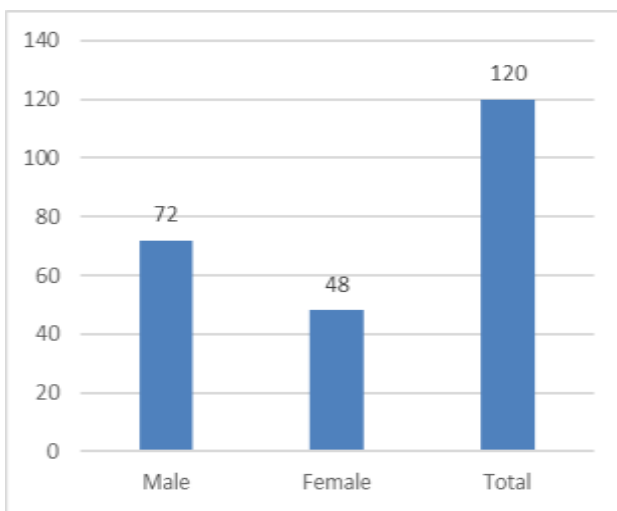


Figure 2: Gender ratio.

The presentation of the patients was also variable. The 86 patients had come to the department with a clear history of foreign body insertion. The 12 patients were brought to our OPD with history of a long standing unilateral nasal discharge, accompanied by an offensive odor. The 12 patients had presented with history of epistaxis. And it was only on endoscopic examination that a foreign body was discovered and removed. Amongst the study group 8 patients had presented with headache and recurrent episodes of rhinorrhea and fever. We had 2 cases that presented with symptoms of pain over the nasal bridge and swelling. Amongst these, in one case it was on anterior rhinoscopy that rhinolith was confirmed and the patient had to be taken up for rhinolith removal under general anesthesia. The second case had an impacted foreign body that was removed in the OPD itself after application of vasoconstrictor and local anesthetic solution (4% xylocaine).

In our study 86% of the patients were brought with a history of foreign body insertion and only 14% a foreign

body was detected when the child had presented to the outpatient department with nasal complaints.

In our study the foreign body objects that were removed from the nasal cavity included twenty-one beads, eleven pearls, ten peas, eleven seeds, nine sponge, eighteen stones, eleven paper bits, fourteen erasers, nine metallic objects, six crayons, one battery. In one adult patient we had removed a leech that was found in the nasopharynx with the help of a nasal endoscope and a Tilley’s nasal dressing forceps.

In our study 38 patients gave a history of previous attempts having been made for removal of the foreign body at home. All of them were unsuccessful. Amongst them 5 gave a history of the foreign body having gotten pushed further deep inside the nasal cavity due to improper techniques and instrumentations. With some having tried using their fingers much to their demise. One of the patients had presented with breathlessness. However, on a normal diagnostic nasal endoscopy and a normal MRI of the chest, it was concluded that perhaps the foreign body had slipped into the food passage. This child was not included in the study since he did not have a foreign body inside the nasal cavity.

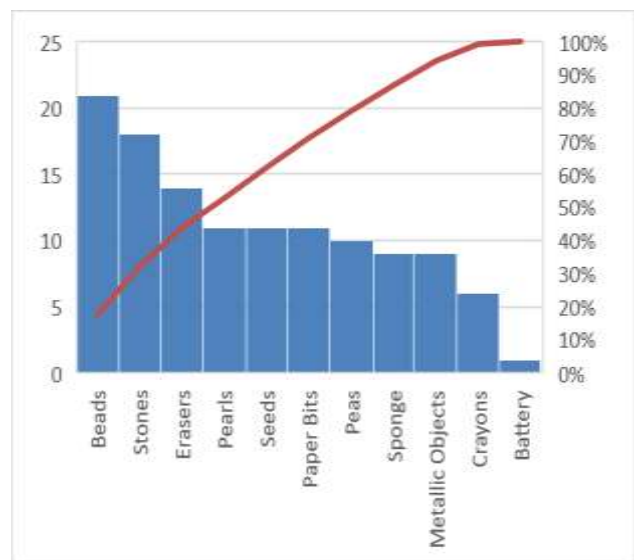


Figure 3: Types of foreign bodies removal.

Two of our patients who had come with a foreign body inserted inside the nose, on subsequent ear examination a foreign body in the ear canal was detected and removed thereafter.

Amongst the patients 88 of them (74%) had presented with foreign bodies in their right nostril. This perhaps confirmed the assumption that it was the dominant hand of the child that was responsible for insertion of the foreign body. And that any child presenting with a unilateral nasal discharge, more so the right side should by all means be investigated to rule out an impacted foreign body in the right nostril. Unilateral foreign bodies

are found on the right side twice as often as the left probably due to right-handedness.^{8,9}

In one of our patients, we removed a battery. This child had a septal perforation. This could have been due to the adverse effect of the battery as a result of inflammation locally leading to necrosis.¹⁰

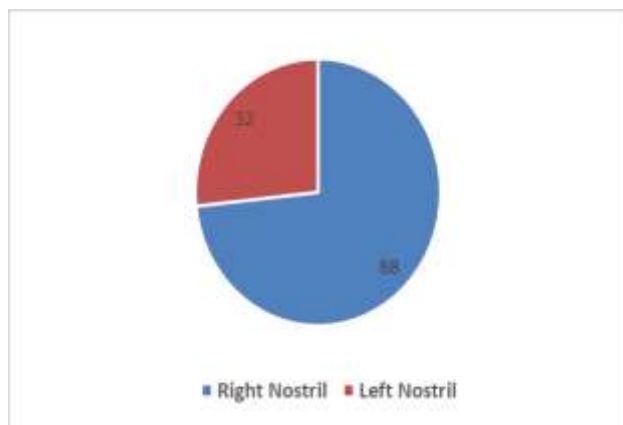


Figure 4: Foreign bodies location.

DISCUSSION

In our study we observed that majority of the patients were less than 10 years of age. Similar findings were observed by Memiş et al.¹ Our study included 72 males and 48 females, having a predilection in male children. Similar results were observed in study by Mukherjee et al.³ Now whether this is some kind of a gender predilection or not, it's debatable. But a possible explanation to this could be the male children being naughtier and more likely to engage in such exploratory acts in comparison to the female counterparts.

In our study the foreign body objects that were removed from the nasal cavity included twenty-one beads, eleven pearls, ten peas, eleven seeds, nine sponge, eighteen stones, eleven paper bits, fourteen erasers, nine metallic objects, six crayons, one battery. The commonest being beads. Çelik et al also reported beads to be more common in their study population.⁵

Amongst the patients 88 of them (74%) had presented with foreign bodies in their right nostril.^{11,12} This perhaps confirmed the assumption that it was the dominant hand of the child that was responsible for insertion of the foreign body. This concurred with most of the literature findings. Similar results were obtained in studies done by Leopold et al and Cetinkaya et al.^{14,15} A possible explanation to this could be due to right-handedness. This was also suggested in the studies done by Koehler et al and also by Hira et al.^{8,9}

In our study the patient who presented with battery as the nasal foreign body also had a septal perforation. This could have been due to the adverse effect of the battery as

a result of inflammation locally leading to necrosis. Similar observations were made in the study Morris et al.^{10,13}

CONCLUSION

Foreign bodies inside the nasal cavity are perhaps one of the commonest ENT emergencies presenting to the department of otorhinolaryngology. All patients presenting with a unilateral nasal discharge with or without a history of foreign body insertion inside the nostrils warrants a thorough investigation. A detailed clinical examination and when necessary, a diagnostic nasal endoscopy should be carried out in order to rule out a foreign body and also (if present) to figure the location of the foreign body inside the nasal cavity. Using the right instrument is paramount when it comes to removal of the nasal foreign body. Intention being to minimize trauma and related complications while removal of the nasal foreign body. In case the child is non-co-operative or the foreign body is long standing in duration and impacted the use of general anesthesia should be considered in order to facilitate the foreign body removal. This greatly reduces incidence of complications like epistaxis, nasal trauma or slipping of the foreign body into the nasopharynx and or respiratory tract. The patient should be encouraged to come for at least one follow up in order to rule out any post removal issues arising inside the nasal cavity. The child's attendants should be counseled to be more vigilant by avoiding keeping objects that the child can insert inside its nostril next to the child. And even more so when the child is being left all alone, unattended.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Memiş M, İlhan E, Ulucanlı S, Yaman H, Güçlü E. Nasal foreign bodies: an analysis of 130 patients. Turk J Ear Nose Throat. 2015;25:109-12.
2. Dhingra PL, Dhingra S. Diseases of ear nose throat, 6th edition, Elsevier. 2016;161-2.
3. Mukherjee A, Haldar D, Dutta S, Dutta M, Saha J, Sinha R. Ear, nose and throat foreign bodies in children: a search for socio-demographic correlates. Int J Pediatr Otorhinolaryngol. 2011;75:510-2.
4. Chiun KC, Tang IP, Tan TY, Jong DE. Review of ear, nose and throat foreign bodies in Sarawak General Hospital. A five year experience. Med J Malaysia. 2012;67:17-20.
5. Çelik M, Olgun B, Altıntaş A, Yegin Y, Kayhan FT. Evaluation of patients with nasal foreign bodies. Haydarpasa Numune Med J. 2018;58:79-84.
6. Abou-Elfadl M, Horra A, Abada RL, Mahtar M, Roubal M, Kadiri F. Nasal foreign bodies: results of

- a study of 260 cases. Eur Ann Otorhinolaryngol Head Neck Dis. 2015;132:343-6.
7. Endican S, Garap JP, Dubey SP. Ear, nose and throat foreign bodies in Melanesian children: an analysis of 1037 cases. Int J Pediatr Otorhinolaryngol. 2006;70:1539-45.
 8. Koehler P, Jung N, Kochanek M, Lohneis P, Shimabukuro-Vornhagen A, Böll B. 'Lost in Nasal Space': *Staphylococcus aureus* sepsis associated with Nasal Handkerchief Packing. Infection. 2019;47(2):307-11.
 9. Hira I, Tofar M, Bayram A. Childhood nasal foreign bodies: analysis of 1724 cases. Turk Arch Otorhinolaryngol. 2019;57:187-90.
 10. Morris S, Osborne MS, McDermott AL. Will children ever learn? Removal of nasal and aural foreign bodies: a study of hospital episode statistics. Ann R Coll Surg Engl. 2018;1-3.
 11. Sinikumpu JJ, Serlo W. Confirmed and Suspected Foreign Body Injuries in Children during 2008-2013: A Hospital-Based Single Center Study in Oulu University Hospital. Scand J Surg. 2017;106(4):350-55.
 12. Regonne PE, Ndiaye M, Sy A, Diandy Y, Diop AD, Diallo BK. Nasal foreign bodies in children in a pediatric hospital in Senegal: A three-year assessment. Eur Ann Otorhinolaryngol Head Neck Dis. 2017;134(5):361-4.
 13. Kalan A, Tariq M. Foreign bodies in the nasal cavities: a comprehensive review of the aetiology, diagnostic pointers, and therapeutic measures. Postgrad Med J. 2000;76(898):484-7.
 14. Leopard DC, Williams RG. Nasal foreign bodies: a sweet experiment. Clin Otolaryngol. 2015;40:420-1.
 15. Cetinkaya EA, Arslan İB, Cukurova İ. Nasal foreign bodies in children: types, locations, complications and removal. Int J Pediatr Otorhinolaryngol. 2015;79:1881-5.

Cite this article as: Sharma R, Malhotra A. Nasal foreign bodies: our experience. Int J Res Med Sci 2021;9:3314-8.