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Nasal foreign bodies in the African children

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Summary

Nasal foreign bodies are very common in daily clinical practice. Their simplicity in pathology and diagnosis often gives the wrong impression of little or no risk of complications. A 5-year (1998 – 2002) prospective study of 106 patients with nasal foreign bodies was done to evaluate and present the patterns, possible challenges and complications or problems in the management of this condition in the Nigerian Africans. The male to female ratio was 1:1.26 (M 47; F 59) and with an average age of 3 years. The duration of symptoms ranged from 1 hour to 4 years with 74 (69.8%) presenting within 24 hours and 27 (25.5%) presenting after 24 hours. The most common nasal foreign bodies were seeds 34 (32.1%), polyurethane foams 12 (11.3%), stones 11 (10.4%), plastic 10 (9.4%), beads 6 (5.7%) and erasers 6 (5.7%). The objects were found in the right nasal cavity in 63 (59.4%) cases while 43 (40.6%) in the left nasal cavity. The various clinical presentations were history of insertion of foreign bodies 91 (85.8%), 15 (14.2%) with no history of insertion, mucopurulent nasal discharge 25 (23.6%), foul nasal odour 10 (9.4%), epistaxis 6 (5.7%), nasal obstruction and mouth breathing 3 (2.8%) and 2 (1.9%) cases respectively. The main complications were nasal infections (23.6%), epistaxis (5.7%), and purulent maxillary sinusitis (1.9%) seen in this study. These are preventable complications if the patients present early to the hospital. The absence of enough E.N.T. specialists however still plagues developing countries like Nigeria. A call is therefore made for more specialists in this area for early detections and care of these cases.

Keywords: *Nasal foreign bodies; foul nasal odour; maxillary sinusitis.*

Résumé

Les organismes étrangers nasales sont très commun journalièrement en clinique pratique. Leur simplicité dans la pathologie et diagnostique donnent souvent une mauvaise impression avec moins de risque de complications. Cette étude prospective de 5 ans (1998-2002) sur 106 patients avec des corps étrangers nasals était faite pour évaluer les fréquences, défi possible et les complications du ménagement de cette condition au Nigéria. La proportion de

male: femelle était de 1:1.26 (M:47, F:59), d'âge moyen de 3 ans. La durée des symptômes variait de 1 heure à 4 ans avec 74 (69.8) symptomatiques entre 24 heures et 27 (25.5%) après 24 heures. Le plus commun particules naale étaient les graines 34 (32.1%), pièces d'éponge 12 (11.1%), cailloux 11 (10.4%), plastique 10 (9.04%). Ces objets étaient trouvés de 59.4% dans la cavité nasale droite et 40.65 dans la cavité gauche. Les présentations cliniques étaient l'histoire d'introduction des particules 85.8%, 15 (14.2%) sans histoire d'introduction, la décharge mucopurulent nasale 25 (23.6%), odeur nasale 10 (9.4%), L'épistaxie 6 (5.7%), l'obstruction nasale et respiration par la bouche 3 (2.8%) et 2 (1.9%) respectivement. Cette étude montrait les principaux complications des infections nasales (23.6%), l'épistaxie (5.7%) et la sinusite maxillaire purulente (1.9%) qui étaient prevenable si diagnostiqué tot due a l'absence d'assez de spécialistes. Ceci illumine et appelle a plus de spécialisation dans cette filière pour une détection précoce et des soins intense.

Introduction

Nasal foreign bodies are very common place in daily clinical practice; despite the simplicity in pathology they still pose a considerable challenge to both the diagnosis and surgical skills of the Otolaryngologist and complications still do arise.

Nasal foreign bodies are a common problem in children [1,2]. They may enter the nose by several routes, mostly through anterior nares or the posterior choanae and through penetrating wounds and nasal surgery [3]. Foreign bodies in the nose may be animate or inanimate. These foreign bodies may be in any part of the nasal fossa but commonly found in the vestibule and on or near the floor of the nasal fossa [3].

Some foreign bodies are inert and may remain in the nose for years without mucosal changes. Many however lead to inflammation and infection of the nasal mucous membrane, which lead to fetid mucopurulent discharge, epistaxis and nasal obstruction. These symptoms being unilateral most of the time [4]. The aim of this study is to evaluate and present the patterns of foreign bodies in the nose in Nigerian African children and their attendant possible complications.

Materials and methods

This is a prospective study. All patients referred, seen and managed in the Department of Otorhinolaryngology of the University College Hospital, Ibadan, Nigeria over a 5-year

period from 1998 – 2002 with clinical features of foreign bodies in the nasal cavities were studied.

Data obtained from each patient during study included demographic data, clinical diagnosis, treatments obtained for the nasal foreign bodies and any associated complications seen with the foreign bodies and or with its treatments.

Results

One hundred and six patients with nasal foreign bodies were seen and treated between 1998 and 2002. There were 47 (44.3%) male and 59 (55.7%) females with a sex ratio of 1:1.26 (M:F). The age ranged from 1 year to 6 years with a mean age of 3 years (Fig. 1).

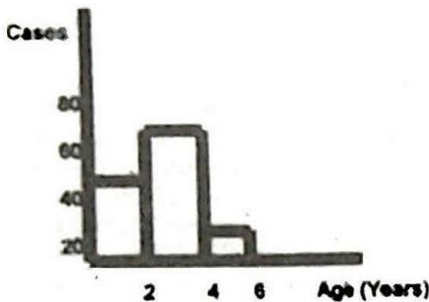


Fig. 1.: Age distributions of nasal foreign bodies

The duration of symptoms ranged from 30 minutes to 4 years with 33 (31.1%) of the cases presenting between 2 to 6 hours of inserting the foreign bodies, 41 (38.7%) presenting between 6 to 24 hours while 27 (25.5%) presented after 24 hours. The foreign bodies were found in the right nasal cavity in 63 (59.4%) cases and left nasal cavity in 43 (40.6%) cases. The most common nasal foreign bodies seen in this study were mainly seeds 34 (32.1%), polyurethane foams 12 (11.3%), stones 11 (10.4%), plastics 10 (9.4%), beads 6 (5.7%) and erasers 6 (5.7%) (Table 1).

Table 1: Common nasal foreign bodies

Types of objects	Incidence
Seeds	34 (32.1%)
Foams	12 (11.3%)
Stones	11 (10.4%)
Plastics	10 (9.4%)
Beads	6 (5.7%)
Erasers	6 (5.7%)

The various clinical presentations for the nasal foreign bodies are as shown in Table 2 with history of insertion of foreign bodies in 91 (85.8%) cases, 15 (14.2%) cases with no history of insertion, nasal discharge in 25 (23.6%), foul nasal odour in 10 (9.4%), epistaxis in 6 (5.7%)

while nasal obstruction and mouth breathing occurred in 3 (2.8%) and 2 (1.9%) cases respectively.

Table 2: Clinical presentations of nasal foreign bodies

Clinical presentations	Incidence
Insertion of foreign bodies	91 (85.8%)
Nasal discharge (mucopurulents)	25 (23.6%)
Nasal foul odour	10 (9.4%)
Epitaxis	6 (5.7%)
Nasal obstruction	3 (2.8%)
Mouth breathing	2 (1.9%)

All were successfully treated and the treatment modalities were forceps extraction, hooks removal and Jobson-Horne's probes removal. The complications were nasal infections 25 (23.6%), epistaxis 6 (5.7%) and maxillary sinusitis 2 (1.9%).

Discussion

Foreign bodies may enter the nose by several different means including the anterior naris, posterior naris (during vomiting, coughing, regurgitation and in patients with palatal incompetence). It may also be from penetrating wounds caused by bullets or shrapnel and from nasal operations in which swabs, particles of tissue or instruments are left behind [3]. Nasal foreign bodies requiring removal occur commonly in young children [1,2,10]. These objects are usually introduced through the anterior naris and consist of any small objects encountered by these children.

In this study, most of the patients with nasal foreign bodies were found to be between 1 year and 6 years with an average age of 3 years (figure 1). Two similar previous studies had shown an average age to be 4 years with range of 1 month-81 years and 3 years with age range of 1 year-12.5 years respectively [5,6]. Adults and older children with nasal foreign bodies are usually mentally disturbed or retarded [10].

There is a female preponderance with nasal foreign bodies as seen in this study with 1:1:26 (M:F). However in two previous similar studies, male preponderance have been reported out of 299 and 68 cases studied respectively [5,6]. Majority of the patients 74 (69.8%) presented within 24 hours of insertion of the foreign bodies to the hospital for definitive treatments. There were 2 cases that presented very late, 1 year and 4 years respectively. The case that presented after 4 years had a plastic foreign body. Thus, some nasal foreign bodies could be in-situ for a long period before presenting or discovery especially if they are inert.

Most of the foreign bodies were found in the right nasal cavity 59.4%. If the patient has inserted it, it is most commonly seen in the right nasal cavity, since right-handedness predominates in the general population. No evidence of involvement of both nasal cavities was seen in this study.

Wada *et al* reported out of 299 cases studied, right side involvement in 57% of the cases, the left side 42% of the cases and bilateral 1% of the cases while Francois *et al* had reported involvement of the right side in 67.6% of 72 cases studied [5,6]. The most common nasal foreign body seen in this study was seeds 32.1%, followed by polyurethane foams 11.3%, stones 10.4%, plastics objects 9.4%, beads 5.7% and erasers 5.7% (Table 1). The seeds were mainly beans, corn, groundnuts and melon and these are commonly found available in most African homes. Other objects seen were chalk, metals and pieces of paper.

In a study carried out by Wada *et al* and Tong *et al*, the majority of nasal foreign bodies found were toys and household products [5,7]. Also in a similar study by Francois *et al*, the most frequent objects seen were plastic objects, beads, paper, cotton and foam [6]. None of them found seeds as nasal foreign bodies, unlike in this study where seeds constituted the most common nasal foreign body, this may be due to seeds being commonly found available in our own environment.

It is of importance that all the objects seen in this study were inanimate objects. The animate nasal foreign objects that have been reported are maggots, screwworms and their larvae, miasias and occasionally a round worm, which may be coughed or regurgitated through the posterior naris [3]. The improvements in health, living and educational standard of the populace seen lately could be responsible for the total absence of animate nasal foreign bodies as seen in this study.

Also, rhinoliths, which is calcification in-situ of inspissated mucus or of exogenous foreign material were not found in this study. They are forms of foreign bodies of the nose, which may be encountered during the course of a routine examination. Rhinoliths if undetected for a long time, they may grow large enough to cause symptom of nasal obstruction, purulent rhinorrhoea, mimicking sinusitis and a high index of suspicion is required for its diagnosis [8,9].

The clinical presentations of nasal foreign bodies are as shown in table 2 with history of insertion of objects 85.8% constituting the majority followed by purulent rhinorrhoea 23.6%, foul nasal odour 9.4% and epistaxis 5.7% respectively. The others (manifestations) are nasal obstruction 2.8% and mouth breathing 1.9%.

The inanimate objects which comprises mostly mineral and vegetable foreign objects generally give rise to these types of presentations as seen in this study due to inflammation of the nasal cavity mucous membrane caused by them. The classical presentation is a unilateral, persistent, foul-smelling, purulent or bloody nasal discharge [4]. If the foreign body is easily seen, and the patient is co-operative, it is usually possible to remove the object through the anterior naris, either with no anaesthetic or after spraying with a local anaesthetic solution such as lignocaine.

In this study, all were successfully removed via anterior naris with no anaesthetic using curved hook,

Jobson Horne's probe or crocodile forceps. Despite their simplicity there are challenges and problems associated with nasal foreign bodies.

A removal under general anaesthesia will be required if the patient is unco-operative, if there is likely to be severe bleeding, if the foreign body is posteriorly placed with risk of pushing it back into the nasopharynx and if a foreign body is strongly suspected but cannot be found. These are some of the challenges and problems, including previous attempt at removal, associated with nasal foreign bodies.

In this study, there have not been any previous attempts of removal before presenting to our centre in most of them. Only 0.9% had had previous attempts of removal, although complications such as nasal infections, epistaxis, and maxillary sinusitis have already occurred. Sinusitis and its complications can lead to serious life threatening consequences and there is the necessity to recognize and prevent them as rapidly as possible [11]. The most worrying complications of sinusitis involve the orbit and intracranial cavity [11,12].

This may connote awareness by other physician colleagues that the Otolaryngologists though still few could better manage nasal foreign bodies. It is hoped that this awareness would continue so that the risks of complications would be minimized from attempted removal. Patients however still fail to report in time to their primary health care giver and there is a need to increase the number of Otorhinolaryngologist to reduce the extent of morbidity in cases of nasal foreign bodies.

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