

## ANALYSIS OF NASAL FOREIGN BODIES IN SOKOTO, NORTHWESTERN NIGERIA. A 7- YEAR EXPERIENCE.

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### ABSTRACT

#### Background

Nasal foreign body is an ENT emergency commonly seen in pediatric population, but also in those with psychiatric illness or developmental disabilities. This paper reviews cases of nasal foreign bodies seen over a seven-year period from January 2015 to December 2021 in the Ear, Nose and Throat (ENT) department of Usmanu Danfodiyo University Teaching Hospital Sokoto, Nigeria.

#### Objective

To determine the prevalence and pattern of nasal foreign bodies among patients who presented to ENT outpatient clinic of UDUTH Sokoto

#### Materials and method

This was retrospective analysis of foreign bodies in the nose and associated complications, seen and managed at ENT outpatient clinic of Usmanu Danfodiyo University Teaching Hospital Sokoto for a period of 7years (January 2015 to December 2021). Sociodemographic, Nature of FB, Treatment Modality, and Associated complication were analyzed using IBM-SPSS version 25.

#### Result

The prevalence of nasal FBs insertion from this our study is 28.7%. The commonest age group affected was 1-5years 87 (31.3%), followed by 6-10years 48(17.3%), males are more affected with male to female ratio of 1.5:1. Agricultural seed 62(22.3%) is commonest FB identified, followed by beads 55(19.8%). Most patients 167 (60.1%) had no symptoms, 37 patients (13.3%) had nasal obstruction and 33 (11.9%) had rhinorrhea. 276(99.3%) were removed in the clinic/ward and 2(0.7%) were removed under General anesthesia.

#### Conclusion

Nasal foreign bodies are commonly seen in age less than 5 years. The prevalence of nasal FBs insertion from this our study is 28.7%. The nasal foreign body may be obvious or may require a high index of suspicion as they may present acutely but can be missed and remain for weeks, months, or even years after insertion.

**Key words:** Nasal cavities, foreign bodies, ENT emergency

### INTRODUCTION

Nasal foreign bodies are frequently encountered in Otorhinolaryngology department, mostly in the pediatric population but also in those with psychiatric illness or developmental disabilities.<sup>1, 2, 3</sup> Nasal foreign bodies account for 19–49% of ENT foreign bodies.<sup>11</sup> Although most nasal foreign bodies do not cause any significant problem because the insertion of the FB is witnessed by other people and is relatively easily removed in the clinic, an inserted nasal FB can damage the nasal mucosa/cartilage and result in potentially serious complication.<sup>4, 5, 6</sup> The nasal foreign body may be obvious or may require a high index of suspicion. Nasal foreign bodies often present acutely but can be missed and remain for weeks, months, or even years after insertion.<sup>3, 7, 8</sup> Nasal Foreign bodies tend to impact in either the floor of the inferior turbinate or anterior to the middle turbinate.<sup>9</sup> While some foreign bodies remain in the nasal cavity without causing any injury, other objects might cause nasal mucosal oedema, leading to mucosal erosions, ulceration, and epistaxis.<sup>10, 11</sup> This is commonly encountered with organic foreign bodies as they tend to absorb the water from the surrounding tissue and swell. These foreign bodies might turn into hard objects as a result of the accumulation of minerals and thus become a rhinolith, causing more harm. Button batteries can affect the nasal septum, causing septal perforation when they start producing a local inflammatory response associated with liquefactive necrosis.<sup>10, 11, 12</sup> Many studies on nasal FBs have focused on children, it's important to evaluate the frequency and clinical characteristics in other age groups. This study is aimed to document the prevalence, and pattern of nasal FBs over a 7- year period in a single tertiary care center in Sokoto, Nigeria.

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### MATERIAL AND METHODS

This was retrospective analysis of foreign bodies in the nose and associated complications, seen and managed at ENT outpatient clinic of Usmanu Danfodiyo University Teaching Hospital Sokoto for a period of 7years (January 2015 to December 2021).

All patients were examined by anterior rhinoscopy and some with rigid endoscopy in the outpatient clinic, to evaluate the presence of foreign body in the nasal cavity or nasopharynx. In some cases, in which FB is not identified, radiography was used for further evaluation. Data on age, sex, type and location of FB, Symptoms and complications were collected. The time from suspected nasal FBs insertion to visiting the hospital was classified as same day, or number of days. As most of them were children, parents sometimes visited when they directly witnessed the insertion of a nasal FB, but in many cases, they didn't know the exact time when FB was inserted. Statistical analyses were performed using SPSS-IBM 25.

### RESULTS

A total of 978 patients presented with FB impaction in the ear, nose and throat, out of which 278 patients presented with nasal FBs during the study period. 167(60.0%) were males and 111(40.0%) were females giving a male to female ratio of 1.5:1. (See figure 1). The prevalence of nasal FBs insertion from this our study is 28.7%. Age ranged from 1 to 40 years, with those <5years having the highest number of nasal FB insertion 87(31.3%), followed by 6 to 10years with 48(17.3%). 9(See table 1). FBs were found more frequently in the right nasal cavity 180(65.0%).

The most common nasal FBs were Agricultural seeds 62(23.3%), followed by beads 55 (19.8%), and stones 38 (13.7%). (See table 2)

Most patients 181 (65.1%) visited the hospital on the same day when nasal FB insertion was suspected, 65 (23.4%) visited the hospital a day later, 27 patients (9.7%) visited after 2 days or more, 5 patients (1.8%) did not know how many days they suspect having a nasal FB insertion.

At presentation most patients 167 (60.1%) had no symptoms, 37 patients (13.3%) had nasal obstruction and 33 (11.9%) had rhinorrhea. (See Figure 1).

About 34 patients (12.2%) developed complications, with 15 patients (44.1%) having sinusitis, and 11 (32.4%) with nose bleeding.

Table 1: Age distribution of the patients.

AGE RANGE	FREQUENCY (n)	PERCENTAGES (%)
1-5	87	31.3
6-10	48	17.3
11-15	42	15.1
16-20	37	13.3
21-25	35	12.6
26-30	18	6.5
>30	11	3.9
<b>TOTAL</b>	<b>278</b>	<b>100</b>

Table 2: Type of Nasal Foreign bodies

Nature/Type of Foreign body	Frequency (n)	Percentage (%)
Agricultural Seed	62	22.3
Beads	55	19.8
Stones	38	13.7
Foam fragments	37	13.3
Pieces of paper	30	10.8
Pieces of balloon	28	10.0
Pieces of Pencil eraser	19	6.8
Button batteries	05	1.8
Metallic materials	03	1.1
Pieces of meat	01	0.4
<b>Total</b>	<b>278</b>	<b>100</b>

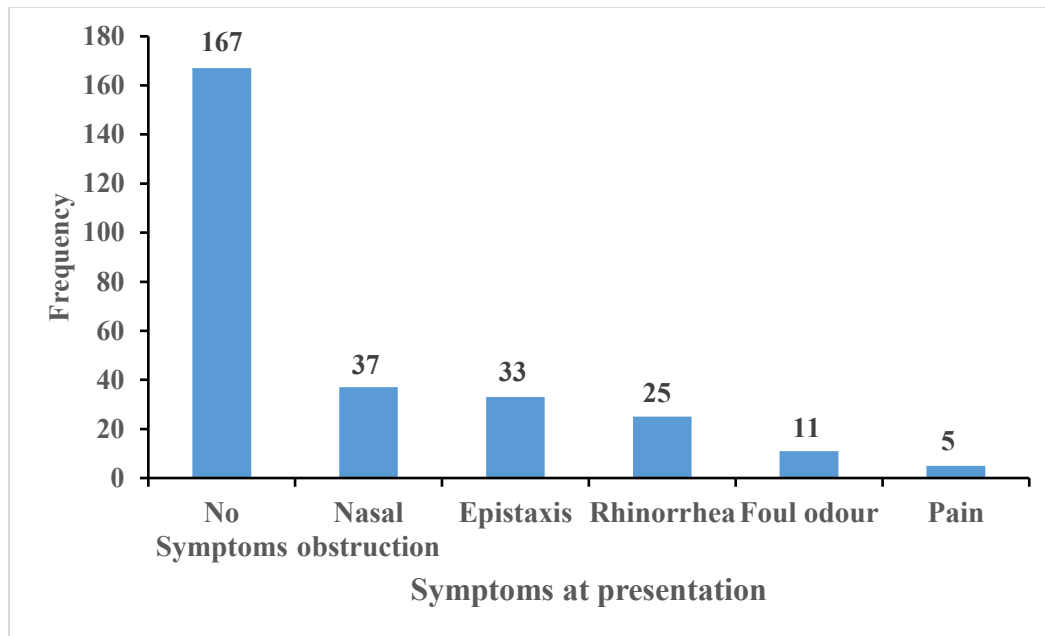


Figure 1: Symptoms at Presentation

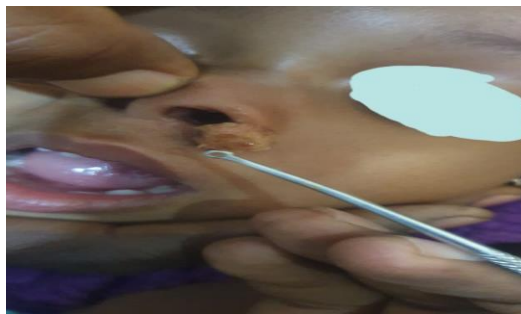


Figure 2: Agricultural Seed FB removed from a 3yr old girl

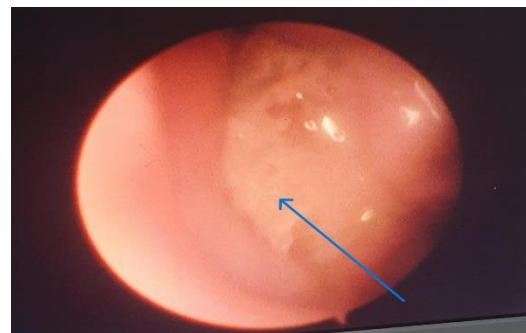


Figure 3: Endoscopic view of a nasal FB in a 4 year old female child

## DISCUSSION

Nasal foreign bodies are relatively a common finding in the ENT practice, in this study NFBs are commonly seen among children 5 years and below, this similar finding was reported in some literatures<sup>1,2</sup> Nasal FBs are rarely found in the adults but when seen may be in patients with psychiatric or psychosocial problems.<sup>13,14</sup> Predominance of cases in the right nasal cavity was observed (74.5% of the cases). This finding might be due to a greater occurrence of right-handed people in the general population. Agricultural seeds (Beans, nuts, maize) were found in this study as the most incriminated foreign nasal body, while in most literatures Beads were found to predominate.<sup>1,15</sup> Most of the foreign bodies 92% were removed in the clinic under direct vision with instrument like Jobson Horne's probe and forceps without any form of anesthesia, the procedures were well tolerated by these children who were well restrained and a good head light used.

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