



Nasal Foreign Bodies and their management: a study in medical college hospital

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ABSTRACT

The presence of foreign bodies (FB) in the nasal cavities is one of the most common causes of emergencies in ENT practice, representing 9% to 15% of all urgencies/emergencies in the specialized services occurring most frequently in children especially unilateral.(1,2)

We are studying 60 cases of foreign bodies' removal from nasal cavities performed at KVG Medical College Sullia, and their characteristics concerning sex, age, kind, and instruments used for removal. The greatest rate of occurrence is from 0 to 2 years old. The most commonly found foreign bodies were grains (beans, corn, and others) at a rate of 25%.

Introduction:

The presence of foreign bodies (FB) in nasal cavities is one of the most common causes of emergency/urgency doctor visiting in ENT area, occurring from 9 to 15% of the total specialized services and more frequent regarding children especially unilateral ones.

The cases of nasal FB often cause symptoms such as sneezing, common cold and nasal blockage that develop to unilateral purulent and fetid rhinorrhea and are more longer the presence more excessive are the symptoms in the nasal cavities.

These FB can be introduced spontaneously or by accident, the former is more common in children or patients with psychiatric disorders, and the latter in adults.

The FB can be living or non-living; in the second case, they are mainly insects. From these, the most associated ones to complications are myiasis that cause suppuration and major destruction of the nasal mucosa, leading to turbinate and septal cartilage necrosis, extension to paranasal cavities, orbit and CNS.

The size and shape of the FB can determine the difficulty in its removal, what can cause epistaxis, more rarely septal perforation, rhinosinusitis and bronchoaspiration of it. The great potential for complications during the removal of these foreign bodies makes the performance of the ENT doctors important in this procedure. The success of the removal of FB depends on the cooperation of the patient, on the ability of the doctor in visualizing the FB, on the type of the FB, the previous manipulation and the available instrument.

In this way, it was made a revision of the cases at the casualty department of a hospital. It was observed some features as type of the FB, time of development, symptoms, attempt of removal by a not specialized team and other data that were considered important in order to make a global view of this type of attendance possible.

Material and methods:

60 patient's records were retrospectively examined from July, 2007 to July 2014. They were suspected of foreign body in the nose. Such patients were shifted to ENT OPD, reassurance to the accompanying parents were given. The patient was made to sit on parents lap as shown (pic 1) & anterior nasal rhinoscopy performed with Thudicum's nasal speculum (pic 2).

Exact location, type, size of the FB located in the nasal cavity was noted and explained to parents. Anteriorly placed FB were removed using Jobson's Horne probe with ring curette (or Rose Eustachian catheter/ Wire vectis usually used in cataract surgery) (pic 11)

When reviewing patient's record, it was filled in a form in which it was possible to know: age, gender, place and origin of the FB, associated symptoms, time of development, complications, instrument used and place of the removal of the FB.

Results :

60 cases of foreign bodies in nasal fossa were studied. When evaluating the distribution of the cases regarding age of patients, there was an absolute concentration on those less than 5 years, only one case of a 7-year-old patient. It had 21 cases of patients with age between 0 and 2 years (47.72%), 20 cases between 2 and 4 years (45.45%), 2 cases between 4 and 6 years (4.54%), and 1 case with more than 6 years (2.28%).(table 3)

In 56 cases (93.33%) the removal of the foreign body was performed at the OPD, and 4 patients (6.66%) in the operation theatre. The instrument used for removing them was Jobson Horne probe with curette or Rose Eustachian catheter. No anaesthesia was given to the 56 patients treated in OPD but 4 uncooperative & FB deeply located not removable in OPD were removed under general anaesthesia.

32 cases (53.33%) presented foreign body in the right nasal fossa and 28 cases (46.66%) in the left nasal fossa.

It was observed a great variety of foreign body. The most frequent ones were: foods (mainly grains) in 18 cases (30%), stone in 9 cases (15%), dress buttons 6 cases (10%) seeds 7 cases (11.66%) and parts of toys in 4 cases (6.66%).(pic 8) In 2 cases (3.33 %) piece of chalk & in other 2 cases (3.33%) small insects were found (pic 4).

Regarding genders, it was observed a great number of occurrences in girls, 38 (63.33%), against 22 boys (36.66%). (table 4). According to development time, most of foreign bodies were removed on the first day, in 49 cases (81.66%), 2 cases (3.33%) had their removal on the second day, 1 was removed on the third day (1.66%), 2 on the fourth (3.33%), 1 on the fifth (1.66%), 3 on the seventh one (5%) and 2 were removed between the tenth and fourteenth days (3.33%). (table 5)

It was necessary to perform oral antibiotic therapy in 8 patients (13.33%), xylometazoline nasal drops in 20 cases (33.33%) , normal saline nasal drops 20 cases (33.33%) & no treatment in 12 cases (20%) was prescribed. (table 6)

The main symptoms were: unilateral rhinorrhea in 20 patients (45.45%) and cacosmia in 6 cases (13.63%). Only in four cases (9.1%) attempts of removal of the foreign body in other not specialized services occurred. It was found epistaxis in 4 patients (9.1%) and rhinosinusitis in 8 patients (18.19%). (table 7)

Discussion:

This study showed that the occurrence of foreign body in the nasal fossa is related with age, but disappearing as child goes older. Intense concentration was observed in the ages from 0 to 2 and 2 to 4 years, what it is confirmed in literature for several other studies. (3).

It was found in this study a greater prevalence of cases in girls (54.55%) against 45.45% in boys.(table 4) These data differ a little from the majority of the found studies, in which the prevalence is greater among boys or there is a balance in the distribution between genders.

Regarding the side of presentation of the foreign body, predominance was not observed. There was only one case in which foreign bodies were found in the two nostrils.

It was observed great occurrence of foreign bodies from child's meal, or even from not cooked food such as beans and corn. (2)This shows the need of evaluation of the child's environment inside house, though it suggests that the child might not be under proper watching, in dangerous places such as the kitchen.(3)

It was also found a great frequency of foam among types of foreign body. In these cases, material is probably taken from pillows, mattresses and sofas. These are the most probable cases when parents do not observe the moment of the installation of the foreign body and also where the most symptomatic cases might appear due to the time of development. (2)

From the obtained data, it was also possible to notice that the delay in treatment time has great influence on symptoms. The majority of cases whose symptom was only local pain, it is where there were few hours of development. In the cases of two or more days of development it was observed other symptoms such as fetid unilateral rhinorrhea. (4)

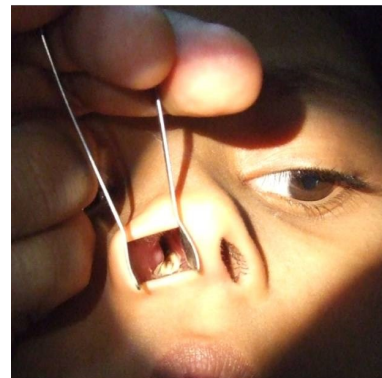
Regarding complications, 12 cases (20%) were observed, 4 of them of epistaxis, equivalent to 6.66% of the total, and presence of rhinosinusitis in 8 patients (13.33%), what in the first cases, bleeding was always in small amount and controlled only with finger nasal compression, and in the last ones it was prescribed antibiotic and local care. (5) These data agree with the ones by Marques et al. where 19.19% of complications during removal was found. (6)



Pic 2: removal of foreign body by anterior rhinoscopy & probing



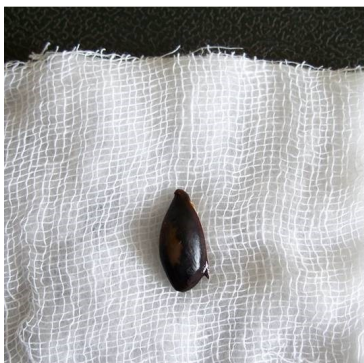
Pic 1: position of the patient while examining him for suspected foreign body



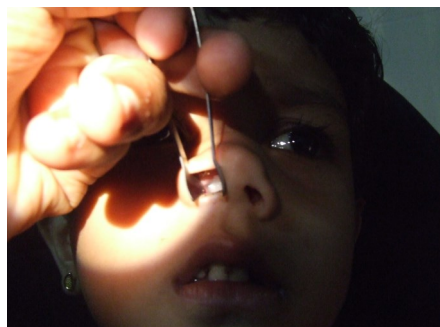
Pic 3: anterior rhinoscopy showing foreign body



Pic 4: living foreign body (insect) in the nose



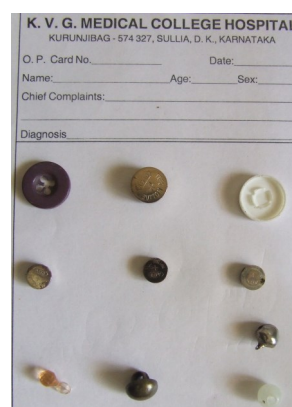
Pic 5: non living foreign body (chikoo seed) in the nose



Pic 6: anterior rhinoscopy showing small plastic object in the nose



Pic 7: foreign body (small rubber piece) removed from patient in pic 3



Pic 8 Collection of non living foreign bodies removed in our college



Pic 9: X ray lateral view of the nose showing unique metallic foreign



Pic 11: instruments used in foreign body removal – Jobson Horne probe with ring curette, Vectis , Rose eustachian catheter, Aural dressing forceps



Pic 10 Collection of non living foreign bodies removed in our college

<i>Type of foreign body</i>	<i>Cases</i>	<i>Percentage</i>
<i>Food grain</i>	<i>18</i>	<i>30%</i>
<i>Stone</i>	<i>9</i>	<i>15%</i>
<i>Sponge</i>	<i>7</i>	<i>11.66%</i>
<i>Button</i>	<i>6</i>	<i>10%</i>
<i>Small battery cell</i>	<i>5</i>	<i>8.33%</i>
<i>Seed</i>	<i>7</i>	<i>11.66%</i>
<i>Parts of toys</i>	<i>4</i>	<i>6.66%</i>
<i>Chalk</i>	<i>2</i>	<i>3.33%</i>
<i>Insect</i>	<i>2</i>	<i>3.33%</i>
<i>Total</i>	<i>60</i>	<i>100%</i>

Table 1 Showing types of nasal foreign bodies in our study

<i>Type of foreign body</i>	<i>Cases</i>	<i>Percentage</i>
<i>sponge fragments</i>	<i>96</i>	<i>22.86%</i>
<i>small plastic objects</i>	<i>76</i>	<i>18.09%</i>
<i>Beans</i>	<i>62</i>	<i>14.76%</i>
<i>Paper fragments</i>	<i>23</i>	<i>5.47%</i>

Table 1a: types of foreign body (Ricardo Rodriguez et, al 1998, Brazil.) (9)

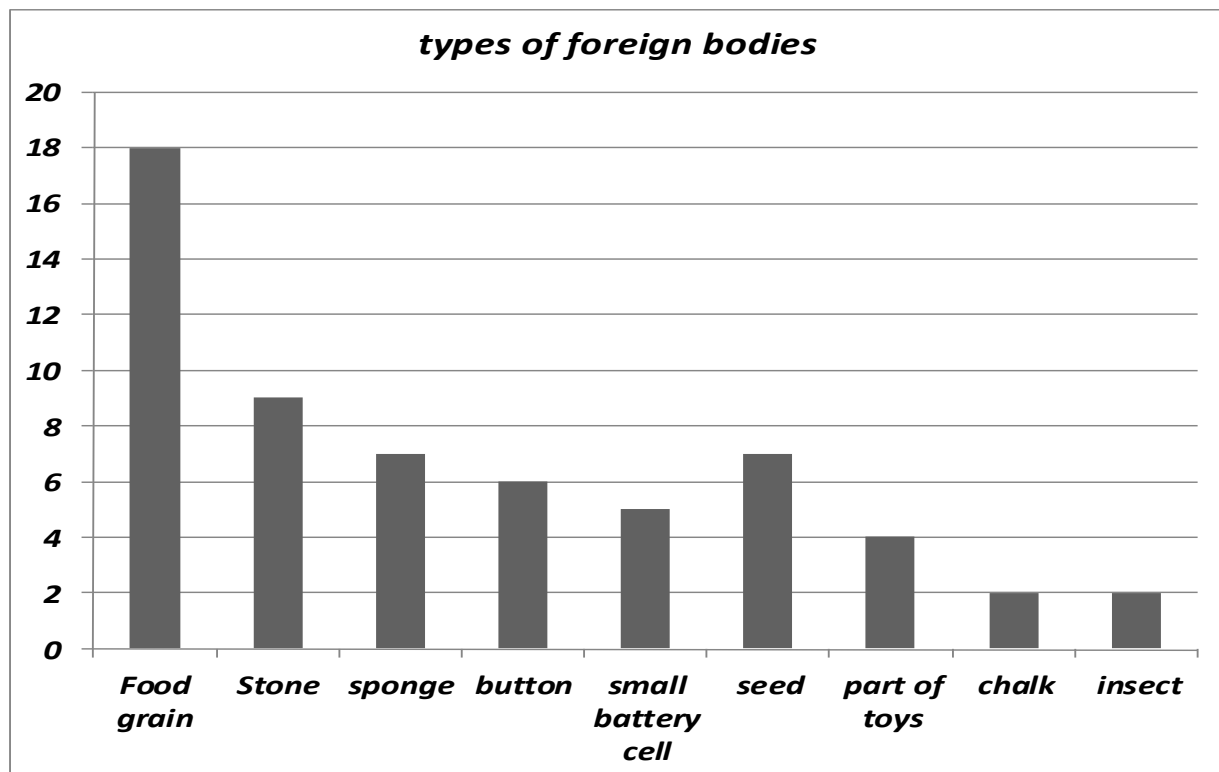


Table 2: type of foreign body (our study)

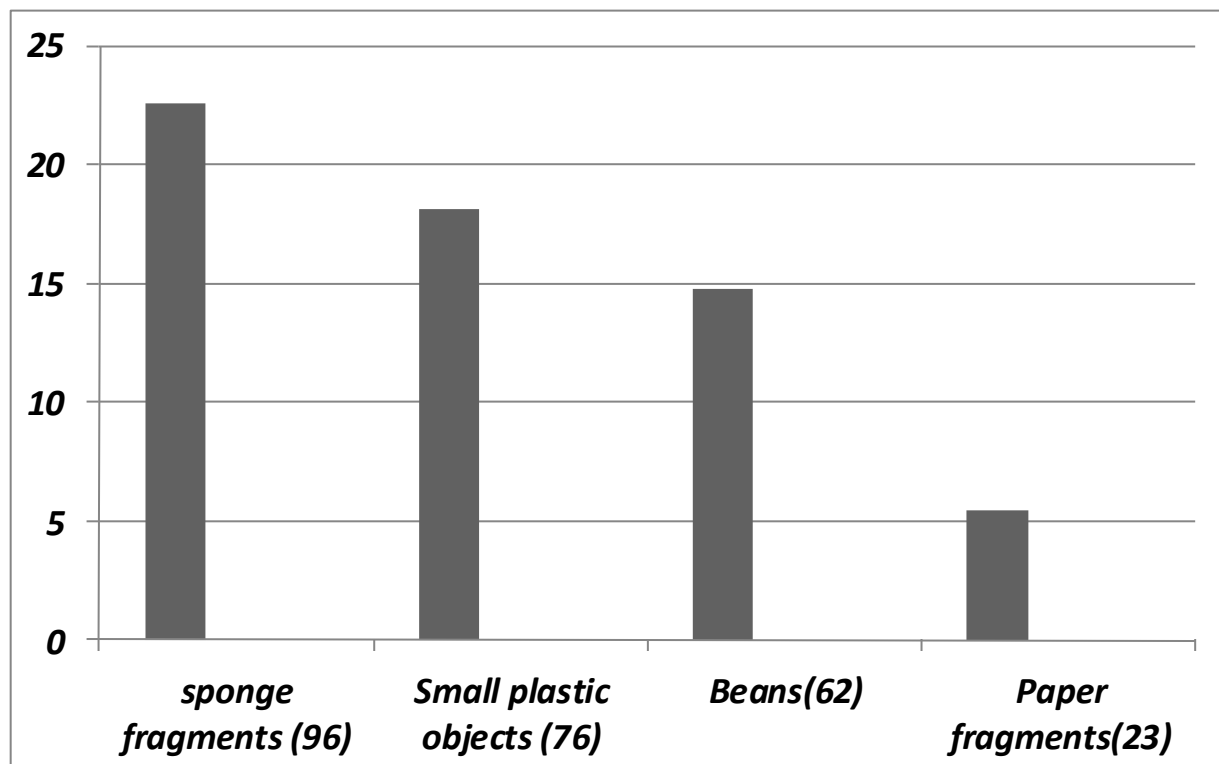


Table 2a: type of foreign bodies (Ricardo Rodrigues et ,al 1998 , Brazil.) (9)

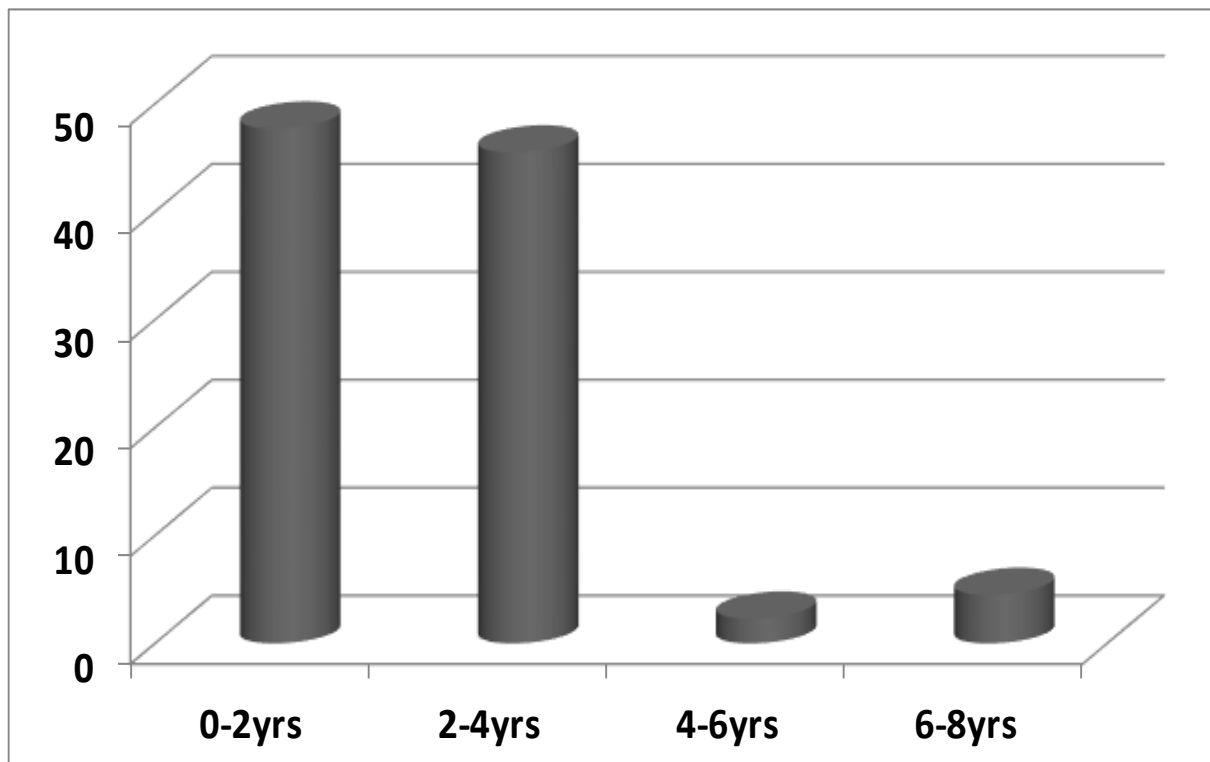


Table 3 : Incidence by age(our study)

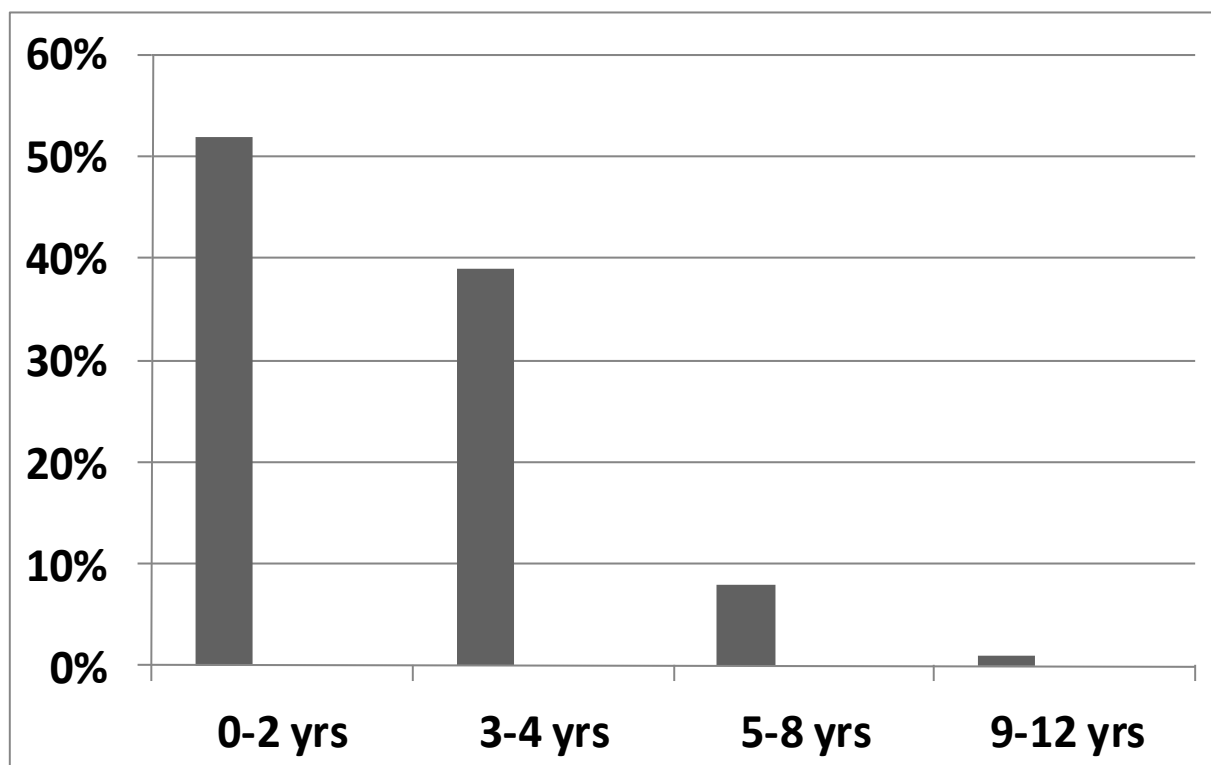


Table 3a: Incidence by age (Ricardo Rodrigues et ,al 1998 , Brazil.) (9)

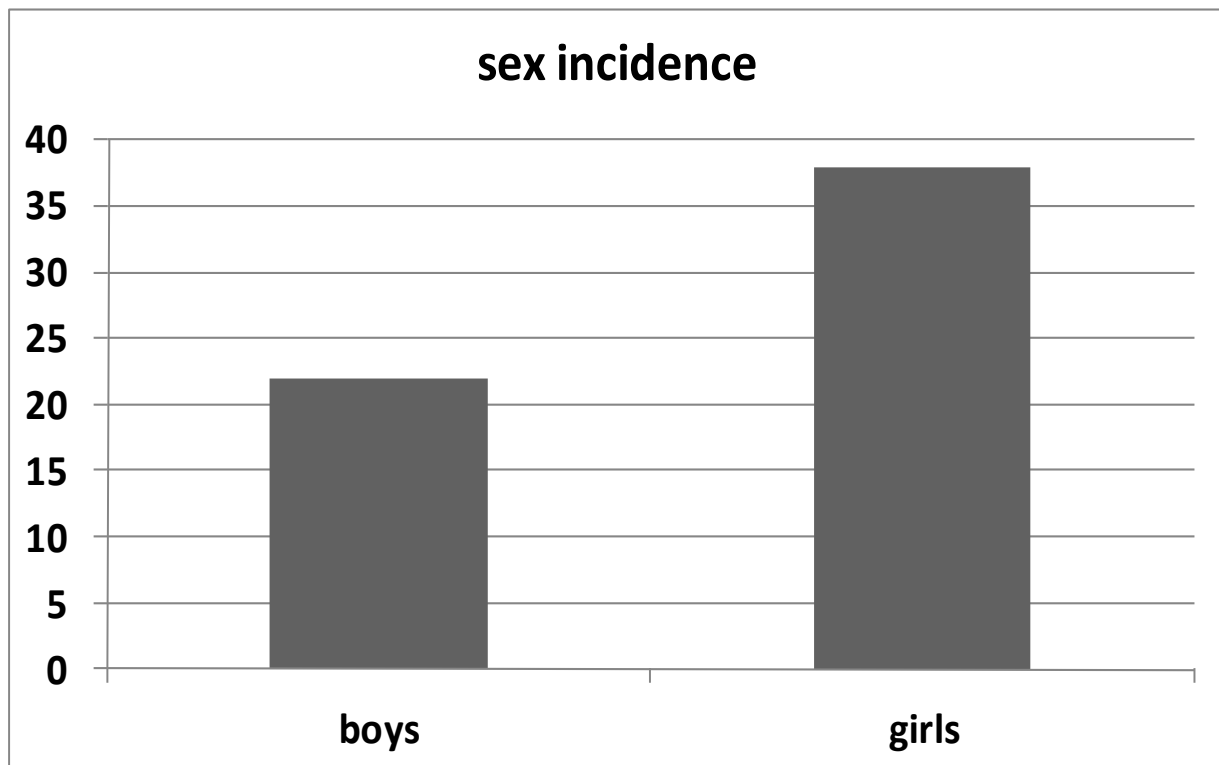


Table 4: sex incidence(our study)

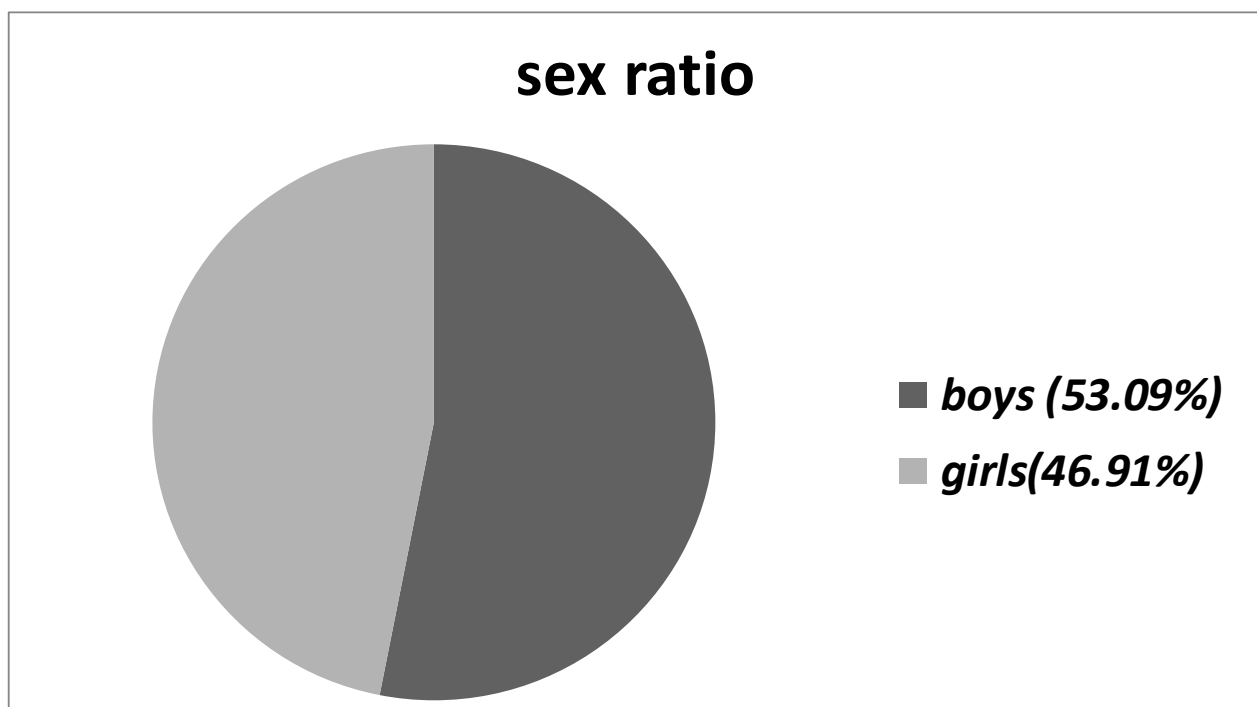


Table 4a: sex incidence (Ricardo Rodrigues et ,al 1998 , Brazil.) (9)

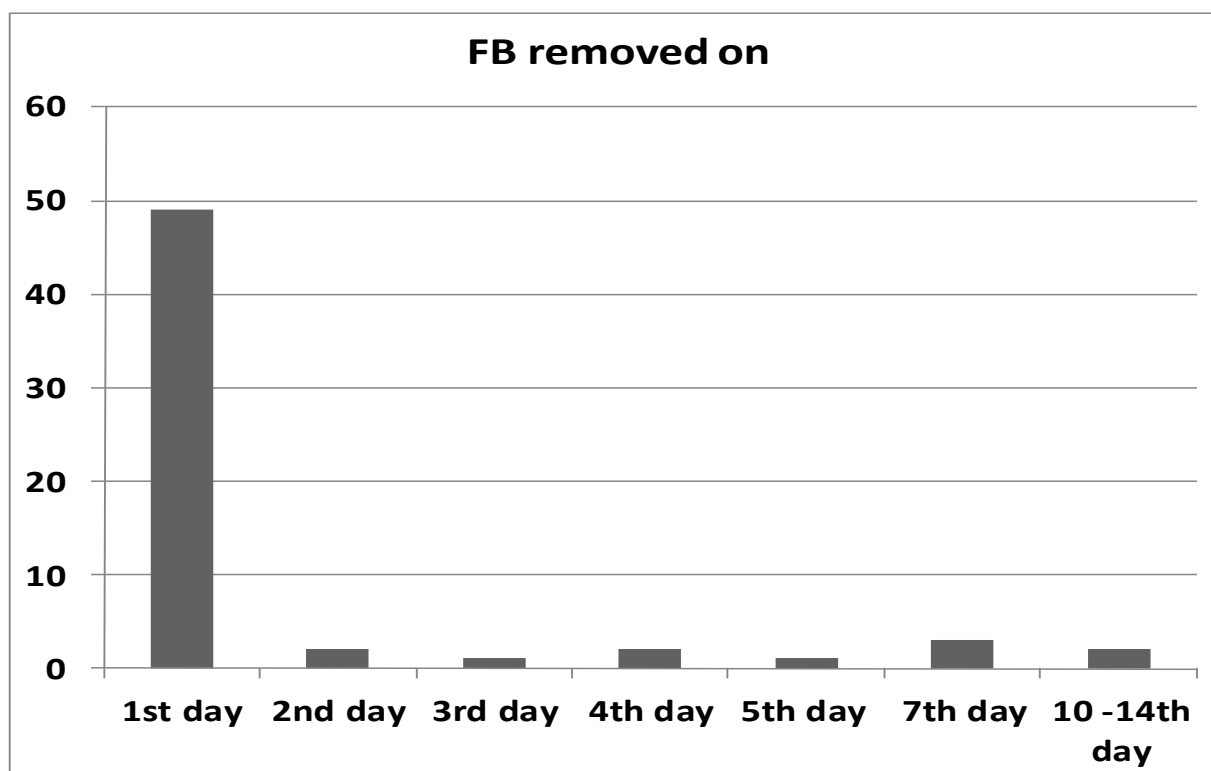


Table 5: Treatment given on particular day after diagnosis

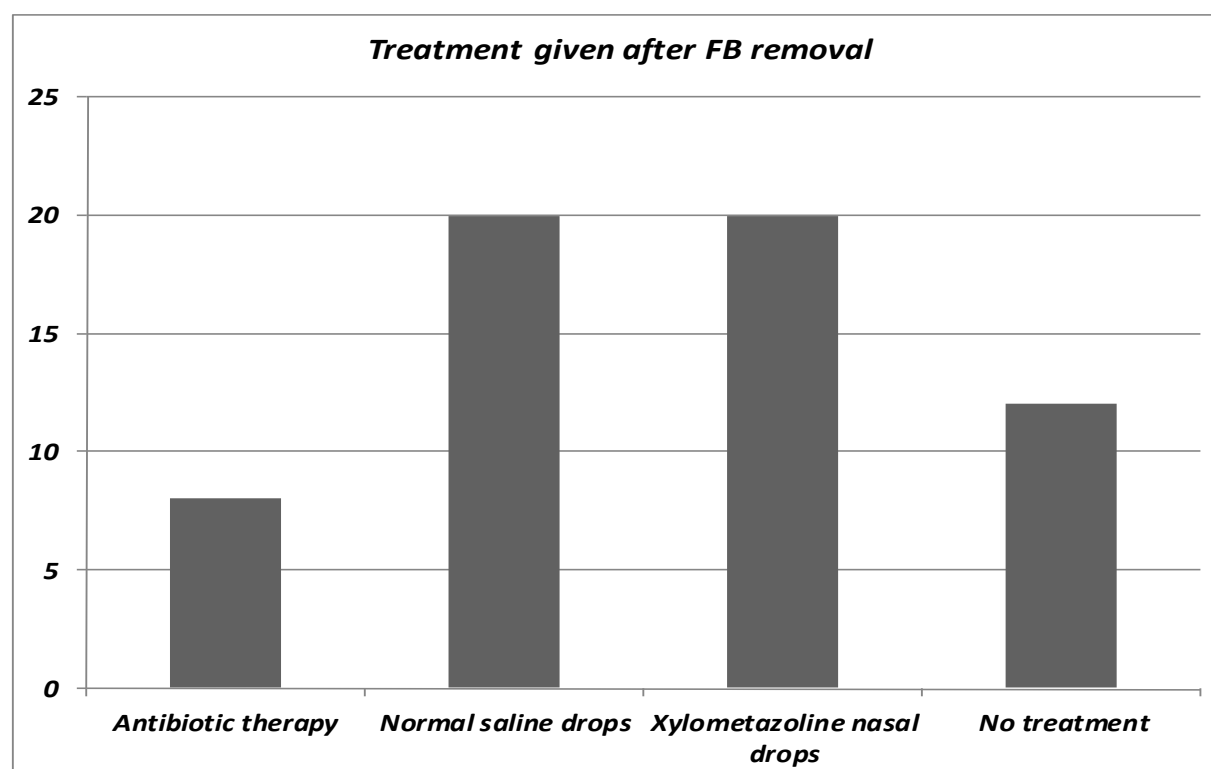


Table 6: Treatment given

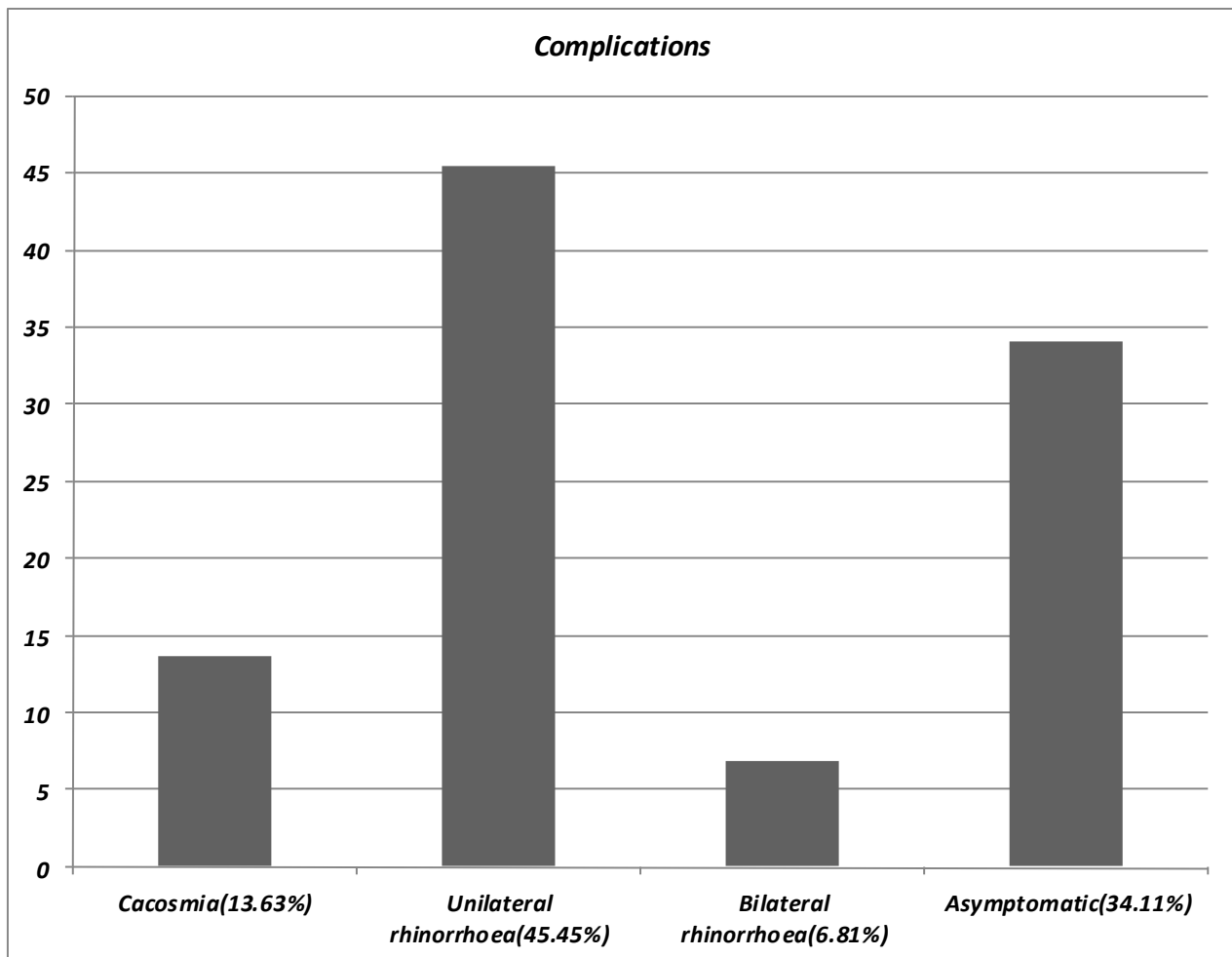


Table 7. Symptoms

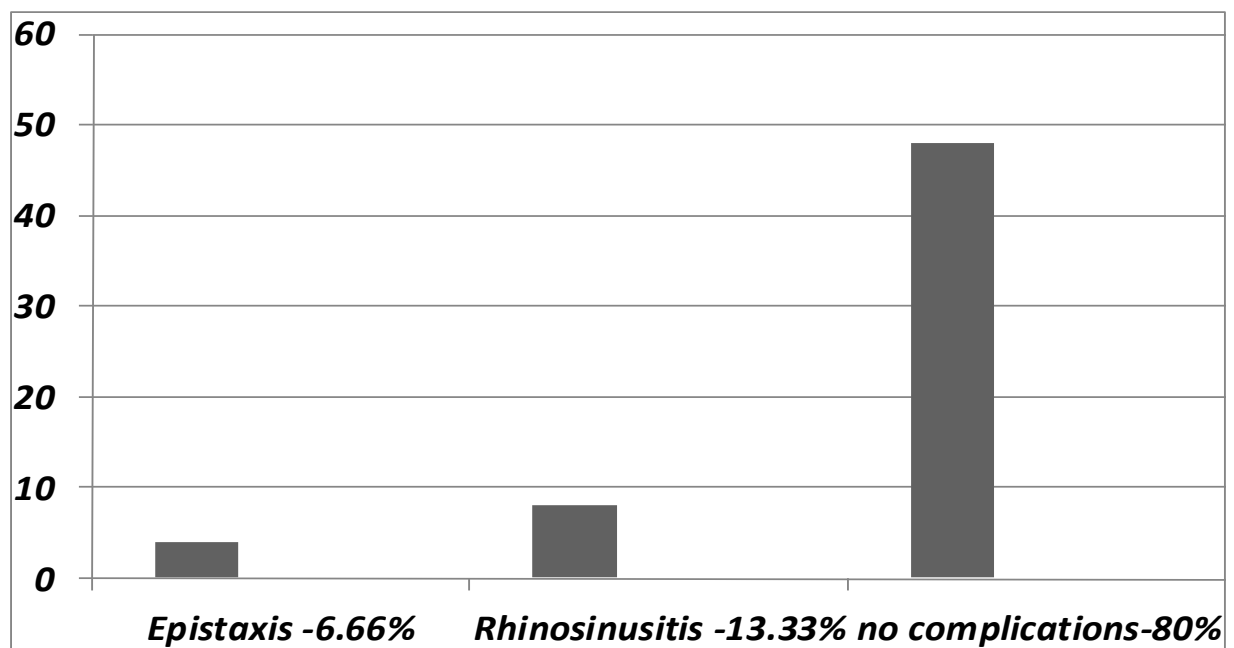


Table 8: complications (our study)

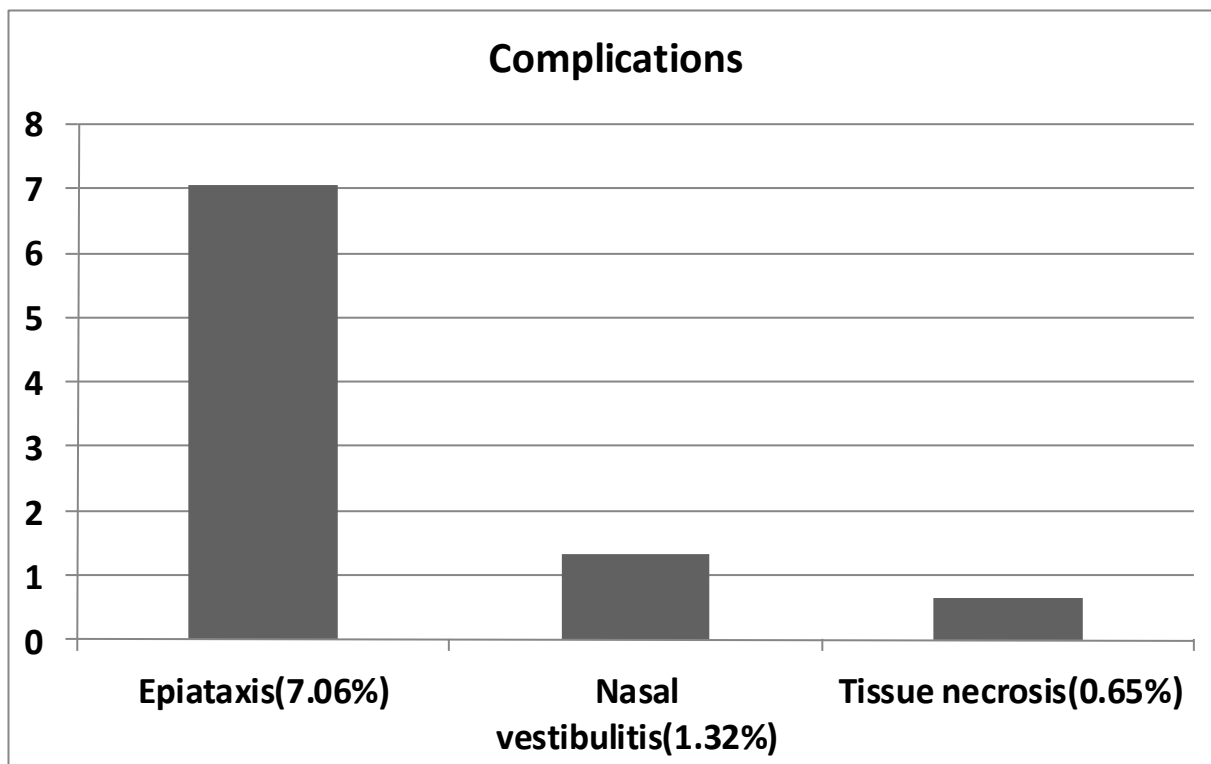


Table 8a: Complications (Ricardo Rodrigues et al 1998 , Brazil.) (9)

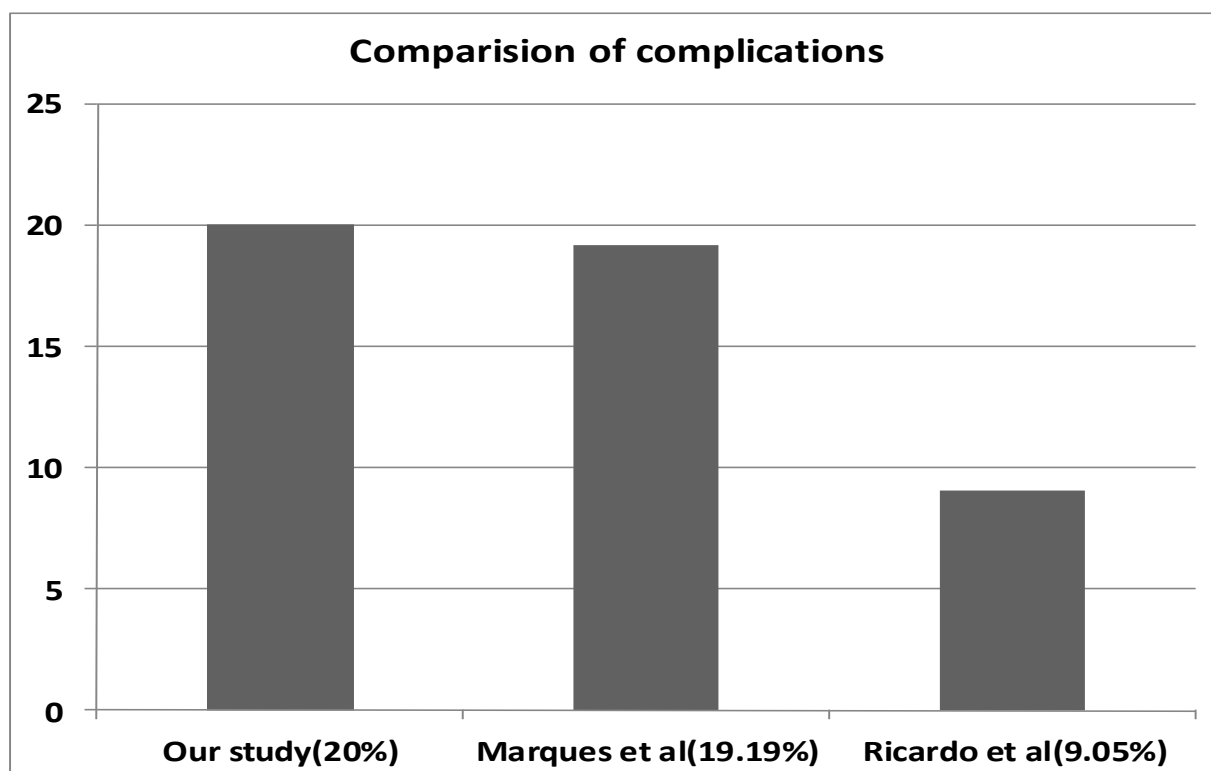


Table 9 : comparison of complication rates (6,9)

Conclusion:

In this study, the nose FB was found especially in patients aging from 0 to 2. The main associated symptom was unilateral rhinorrhea. The most found type of FB was food. It was not necessary anesthesia for removing FB in none of the evaluated patients.

The most of cases of nose FB is easily solved with no sequelae, but some can develop serious complications, mainly when there is an attempt of removal by professionals not properly qualified or a lack of suitable instrument. (7) The most feared complication of nose FB, although rare, is the aspiration of it to the inferior air paths, what demonstrates the need of training for removing the nose FB, due to the severity of this occurrence. (8)

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