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Original Research Article

A prospective study on foreign bodies in the oropharyngeal/ nasopharyngeal pathways done in the ENT department of a tertiary care private medical college hospital in the year 2022

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ABSTRACT

Aim: To do a prospective study on foreign bodies (FB) in the oropharyngeal (OP) / nasopharyngeal (NP) pathways done in the ENT department of a tertiary care private medical college hospital in the year 2022.

Objectives: To analyse, categorize, correlate the demographic data of patients presenting with FB in OP/ NP pathways with the nature of FB, clinical features, method of removal, duration of hospital stay in the ENT department of a tertiary care private medical college hospital in the year 2022.

Materials and Methods: Study method: Prospective study Study centre: Saveetha Medical College, Thandalam Study population: patients with nasopharyngeal foreign body attending the ENT department Study duration: 8 months from January to August 2022 Sample size: 50

Inclusion Criteria: 1. Age more than 6 months 2. Both male and female subjects 3. Patients presenting to ENT department with oropharyngeal/nasopharyngeal foreign body.

Exclusion Criteria: 1. Age less than 6 months 2. Patients presenting to ENT department with diagnosis other than FB in the OP/NP pathways.

Results: OP/NP FB has been seen frequently in the males than females. Most of them were single in number in the OP pathway. Highest number of patients are seen in the 30-39yrs age group of LIG, MIG coming from urban and sub-urban population in our study when compared to other studies which showed highest frequency in children. Fishbone was the frequently encountered FB. Almost all of them are acute cases presenting within 24 to 48hrs. With regards to symptoms, all of them except the persons with NP FB presented with dysphagia. In children upto 4yrs the symptoms were incessant cry, refusal to feed and excess salivation were seen. All OP FB were treated with either IDL or DL scopy. All NP FB treated with FOB. Anaesthesia was either local or short GA depending on the merits of each case. The duration of hospital stay was mostly 24 to 48hrs, except 3 cases who were geriatric people with co-morbidities.

Conclusion: In our study Foreign bodies in the OP pathway were common in the adult male population in the middle age unlike children in other studies. Fish and chicken bones were common and in the low and middle income group coming from urban and sub-urban locality. Further studies are needed with larger sample size and longer duration to generalize the results to wider population.

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1. Introduction

Foreign body (FB) in the ENT pathways are a common problem seen in the ENT practice. Studies have shown that FB are common among younger age group. In our

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department we have come across FB of various nature among persons in the middle age groups. The prospective study on the foreign bodies in the ENT pathways with special reference to demography were very few and hence it was decided to do a prospective study on FB specifically in oropharyngeal /nasopharyngeal site with regards to the demographic data that were collected during the treatment of such persons. The demographic data that were collected are age, sex, social status, locality of residence and to analyze, categorize and correlate with the type of FB, clinical features, methods of removal, duration of hospital stay.

2. Materials and Methods

This is a Prospective study done in the department of ENT at Saveetha Medical College, Thandalam. IEC approval obtained prior to the study. Study population were patients with OP/NP FB during January to August 2022 in the age group 6months and above.

A total of 50 participants with OP/NP FB were included were included in the study. Both the sexes were included in the study.

All patients with the history of FB ingestion were admitted in the ENT department. Baseline investigations were done and screened for the presence of FB in the OP/NP pathway using IDL scopy, DL scopy, FOB under local or short GA.

All the 50 participants were grouped into 8 categories according to age: 0-9y, 10-19y, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79.

The nature of FB were classified according to the type encountered as sharp metal(SM), coin, fish bone, chicken bone, broken denture etc.

The site of FB were classified into OP/NP. OP were further classified into tonsil(TON), para tonsil(PTON), posterior wall(PW). NP classified into roof(R), lateral wall(LW), posterior wall(PW). The number of FB were classified as 1, 2, etc.

The social strata classified into low, middle, high income group (LIG, MIG, HIG) according to their income range. LIG: less than 2lac, MIG: 2-10lacs, HIG: more than 10lacs per annum.

The residential locality were classified into urban(U), sub-urban(SU), rural(R).

The clinical features classified into 6 categories as incessant cry and refusal to eat in children upto 4y of age. Vomiting, globus/ choking, excess salivation causing drooling of saliva, dysphagia.

The treatment of cases were classified into removal of FB using direct laryngoscopy(DL), indirect laryngoscopy(IDL), fiber-optic bronchoscopy(FOB). The duration of hospital stay was classified in to number of days post admission. Statistical analysis was done using Chi-square test. P values of less than 0.05 were considered

statistically significant. Statistical analyses were done using SPSS software, version 21.0 (IBM, NY,USA).

3. Results

A total of 50 cases of OP/NP FB were studied. Male were 31cases(62%) and female were 19 cases (38%) OP/NP FB were seen to a maximum of 22 cases among the middle age group (30-59y) and least of 3 cases among 70-79y unlike children in other studies, references 19, 21 Among the social strata, LIG-25cases (50%), MIG-22cases (40%), HIG-3cases (6%). With regards to the locality, urban (62%), sub-urban (35%) and rural (3%). Urban constitute a major portion of 47 cases (94%). Fish bone (50%), chicken bone (34%), sharp metal (8%), broken denture (6%), coin (2%). Fish bone and chicken bone were the commonest FB in 42 cases. Single number in 92% and double in 8% of cases.

Almost all of the OP/NP FB are acute cases (96%) presenting within 72hrs and 2 chronic cases (4%) of 1wk and 2wk old. OP FB were 39 (78%) and NP FB were 11(22%). Among the OP FB para-tonsil-17 cases (44%), posterior wall-14 (36%), tonsil-4 (10%), lateral wall and inlet- 2 each (5%) each. Among NP FB posterior wall-9 (82%) and roof -2 (18%) of cases.

Almost all of them presented with dysphagia as the main symptom in OP FB. Incessant cry, refusal to eat and excessive salivation were seen in children upto 4yrs of age (5 cases). Vomiting was seen in 4 of the cases. Choking was seen in 2 cases of coin FB stuck in the inlet. All of the OP FB were removed using DL(Direct Laryngoscopy) -28 (56%), IDL(Indirect Laryngoscopy) -11(22%). All of the NP FB were removed using FOB (Fibre Optic Bronchoscopy)-11 (22%).

The maximum duration of hospital stay was 72hrs in 2 cases, both were elderly with co-morbidities. Others were 24hrs- 38 cases, 48hrs- 10 cases.

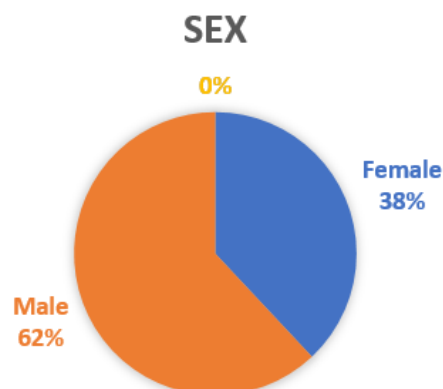
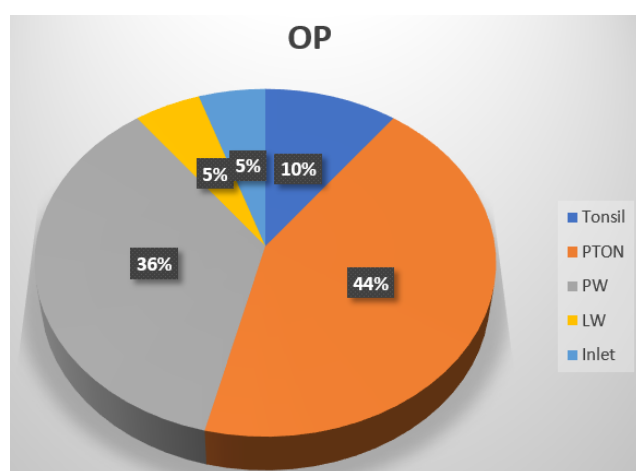
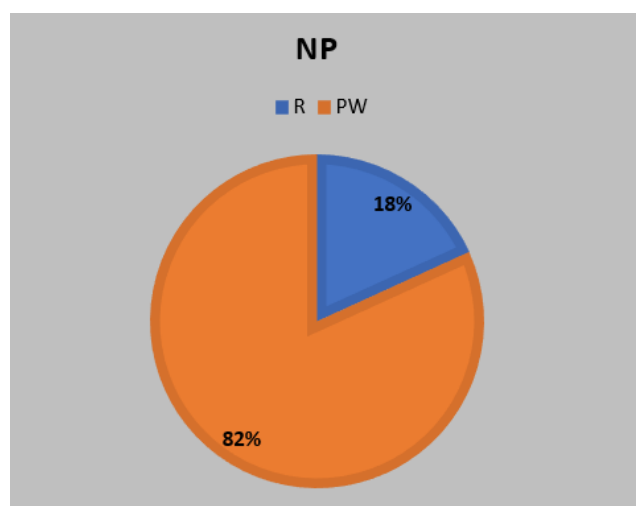


Fig. 1: Sex

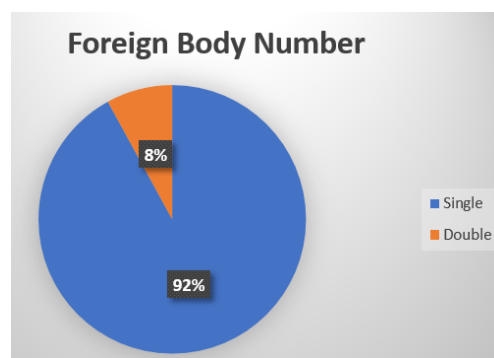
Table 1: Age

Age	No
0-9 y	7
10-19 y	6
20-29 y	6
30-39 y	8
40-49 y	7
50-59 y	7
60-69 y	6
70-79	3

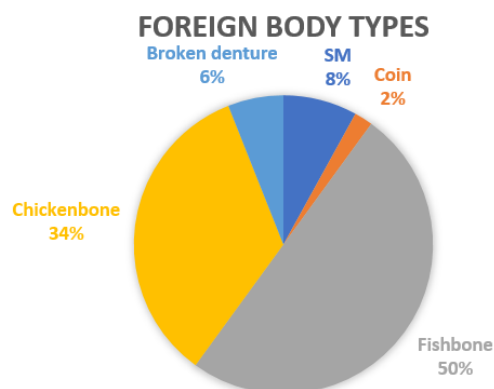
3.1. OP (Oropharynx), NP (Nasopharynx)

**Fig. 2:** HIG (High income), MIG (Middle income), LIG (Low income)**Fig. 3:** PTON(Para tonsil), PW (Posterior wall), LW (Lateral wall).

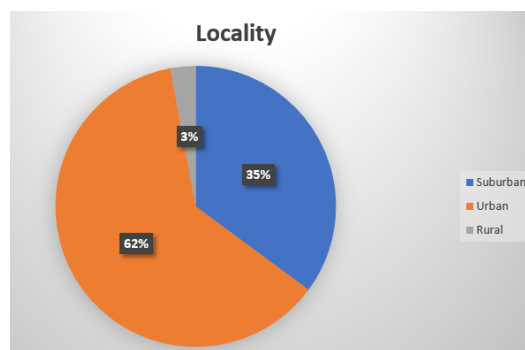
3.2. Foreign body number

**Fig. 4:** R(Roof), PW (Posterior wall).

3.3. Foreign body types

**Fig. 5:** Foreign body number

3.4. Locality

**Fig. 6:** Foreignbody types

3.5. Symptoms

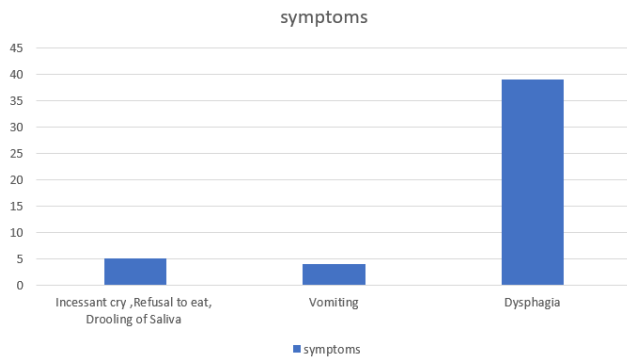


Fig. 7: Symptoms

3.6. Management

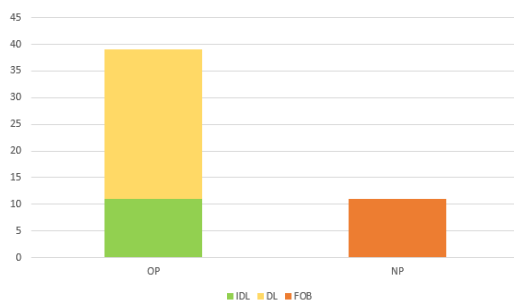


Fig. 8: IDL (Indirect laryngoscopy), DL (Direct laryngoscopy), FOB (Fiberopticlaryngoscopy).

3.7. Hospital stay

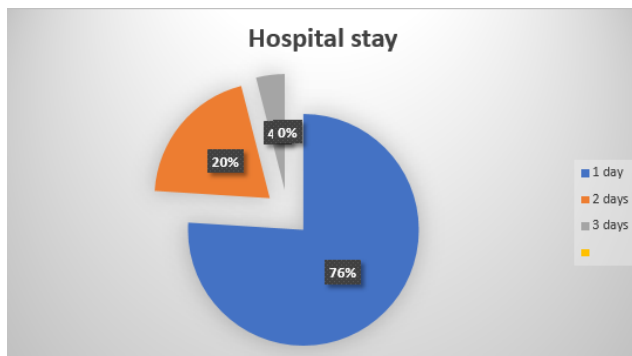


Fig. 9: Hospital stay

4. Discussion

In our study OP/NP FB were commonly seen in the middle aged male population unlike children in other studies done by Altkorn R., et al and Gregori D., et al.^{1,2}

Fish bone (50%) and chicken bone (34%) pieces were the common FB in our study comparable to other studies done by Kim, S. Y., et al.³ This may be due to eating habits resembling the same. In the population older than 55yrs though fish and chicken bones were common FB, broken pieces of dentures were also encountered showing some age-related variation in our study. Our study may be the only one comparing the demographic parameters like the economic strata and urban, sub-urban geographic division with the frequency of the FB.

The frequency of site of impalement of FB in our study of Tonsil and paratonsillar area in OP FB were comparable to other studies done by Kim., S. Y., et al.³ Smooth and rounded shape of the foreign bodies like coins enter the pharyngeal inlet more often. The location of the OP/NP foreign bodies are also age related. Since the children have larger size tonsils compared to adults, the frequency of foreign bodies getting lodged in the tonsillar and paratonsillar area is high in our study as in other study done by Wai Pak M., et al.⁴ and N gan et al.⁵ Usually adults with smaller tonsil and larger oral cavity volume have foreign body impaction more in the esophagus in other studies done by Park et al.⁶ Kamath et al.⁷ The types of FB according to different age groups were also comparable to other studies done by Kim., S. Y., et al.³ Kamath et al.⁷ Ngan J. H., et al.⁵

Our study may be the one comparing the treatment modality like DL, IDL scopy and FOB for the removal of OP/NP FB. Our study has numerous advantages as mentioned above. It also has some limitations like shorter duration of study, a sample size of 50 cases, hospital-based single speciality study and not including others who have taken treatment for similar problems in other clinic-based setup.

All of these factors have to be considered when framing policy recommendation on how to decrease the frequency of OP/NP FB impalement injuries in the community.

5. Source of Funding

None.

6. Conflict of Interest

None.

References

1. Altkorn R, Chen X. Fatal and non-fatal food injuries among children (aged 0-14 years). *Int J Pediatr Otorhinolaryngol.* 2008;72(7):1041–6.

2. Gregori D, Salerni L. Foreign bodies in the upper airways causing complications and requiring hospitalization in children aged 0-14years: results from the ESFBI study. *Eur Arch Otorhinolaryngol*. 2008;265(8):971–8.
3. Kim SY, Park B. Analysis of ingested foreign bodies according to age, type and location: a retrospective observational study. *Clin Otolaryngol*. 2015;41(6):640–5.
4. Pak MW, Lee WC. A prospective study of foreign body ingestion in 311 children. *Int J Pediatr Otorhinolaryngol*. 2001;58(1):37–45.
5. Ngan JH, Fok PJ. A prospective study on fish bone ingestion. Experience of 358 patients. *Ann Surg*. 1990;211(4):459–62.
6. Park S, Choi DS, Shin HS. Fish bone foreign bodies in the Pharynx and upper esophagus: evaluation with 64 slice MDCT. *Acta Radiol*. 2014;55(1):8–13.
7. Kamath P, Bhojwani KM. Foreign bodies in the aerodigestive tract - a clinical study of cases in the coastal belt of South India. *Am J Otolaryngol*. 2006;27(6):373–7.

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