Section: ENT

Original Research Article

RETROPHARYNGEAL ABSCESS SECONDARY TO RETAINED FOREIGN BODIES: A TWO-YEAR INSTITUTIONAL EXPERIENCE

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Received *: 08/03/2025*
Received in revised form *: 07/05/2025*
Accepted *: 25/05/2025*

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DOI: 10.70034/ijmedph.2025.2.309

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2025; 15 (2); 1726-1729

ABSTRACT

Background: Retropharyngeal space infections, though rare, remain potentially life-threatening, particularly in developing countries like India. Delayed diagnosis, especially in rural populations, often leads to complications. A significant but under-reported cause is old, impacted foreign bodies in the pharynx. The objective is to analyze clinical presentation, radiological findings, and surgical outcomes in patients with retropharyngeal abscesses associated with retained foreign bodies over a two-year period.

Materials and Methods: A retrospective observational study was conducted in the ENT department between August 2020 and August 2022. Twenty-one patients with confirmed retropharyngeal space infections and a history of foreign body ingestion were included. All underwent clinical examination, radiological evaluation (X-ray and CT scan), laboratory investigations, and surgical management. Foreign bodies were identified and removed during incision and drainage procedures. One patient with airway compromise required tracheostomy.

Results: 19 adults and 2 children; 11 patients were diabetic. Fish bones (n=19), mutton bone (n=1), and glass pieces (n=1) were the culprits. Average 14–21 days after foreign body ingestion. X-ray and CT imaging confirmed abscess and foreign body in all cases. 20 patients underwent general anesthesia-guided incision and drainage; 1 required tracheostomy. All foreign bodies were successfully removed; no recurrences or complications were reported on follow-up.

Conclusion: Retropharyngeal abscess due to foreign bodies remains a critical condition in India due to delayed presentation and inadequate initial treatment. Prompt diagnosis using plain radiography and CT, followed by surgical drainage under general anesthesia, is effective. Institutional protocols and early ENT referral are vital, especially for paediatric and diabetic patients.

Keywords: Retropharyngeal abscess, Foreign body ingestion, Deep neck space infection, Tracheostomy, Fish bone, CT scan, Emergency otolaryngology, Surgical drainage.

INTRODUCTION

Retropharyngeal space infections though rare,[1] they are still a potentially life-threatening condition in developing countries like India. Retropharyngeal space infection frequently originates from an infection in the nose, Para nasal sinuses or nasopharynx or it can also present because of an old foreign body. Penetrating and blunt trauma to neck and pharynx can also provide a portal of entry for infection of the retro pharyngeal and lateral pharyngeal spaces. In countries like India tubercular infection of the vertebral bodies (Potts abscess) can lead to pre-vertebral (retropharyngeal) space infection.[2] In cases of children with deep neck space infection outcome is usually very poor if it is not diagnosed early and treated properly.[3]

These infections are frequently accompanied starting from localized aero- digestive tract compromise and sometimes leading to life- threatening sequelae like

severe airway obstruction, mediastinitis, pericarditis, Internal Jugular Vein thrombosis, epidural abscess, sepsis and may also cause death.[4] Here we present a series of 21 cases that presented with retropharyngeal space abscess with history of impacted old foreign bodies and how we diagnosed them and managed them.

MATERIALS AND METHODS

Patients were selected from the otolaryngology clinic of our institution for the period of 2 years (august 2020 – august 2022). During this period 21 patients were diagnosed having retro pharyngeal space infections associated with history of foreign body ingestion. After initial clinical examination, the patients were subjected to plain X ray Radiograph of soft tissue of neck Antero-posterior view and lateral view, routine laboratory investigations specially fasting and post prandial blood sugar to rule out diabetes mellitus, serology and CT scan was done in all cases. All patients were immediately prepared for surgical drainage of the abscess. In anticipated difficult intubation tracheostomy was done.

All patients were initially assessed with plain X radiograph of soft tissue neck AP and lateral view with Chest X ray PA view. CT scan was done in all cases after admission on emergency basis. Once diagnosis was confirmed, all patients were prepared for emergency incision and drainage of abscess under general anaesthesia. Among the 21 patients, 19 patients had retro pharyngeal abscess and 2 patients had retropharyngeal abscess with para pharyngeal space involvement.

20 were operated under direct laryngoscopy guided incision and drainage under general anaesthesia and a rigid oesophagoscopy examination was made in all suspected cases of foreign body. One patient had stridor at the time of presentation. tracheostomy was done in the patient immediately after admission and the radiology studies were done later which showed retro pharyngeal abscess. Then the patient was prepared for surgical drainage, after stabilising the condition tracheostomy decannulation was done after 15 days.

Statistical Analysis

Data collected from the 21 patients diagnosed with retropharyngeal space infections associated with foreign body ingestion over a period of two years were analyzed descriptively. Statistical analysis was conducted using Microsoft Excel and SPSS (version 25.0). All data were presented as frequencies and percentages for categorical variables. Due to the descriptive nature and small sample size of the study, inferential statistical tests were not applied.

RESULTS

Total study population was 21 with 2 paediatric patients and 19 adult patients [Figure 1]. Among the 19 adult patients 10 patients were known cases of diabetes and one patient was diagnosed to be diabetic after admission, thus a total of 11 patients were diabetic.

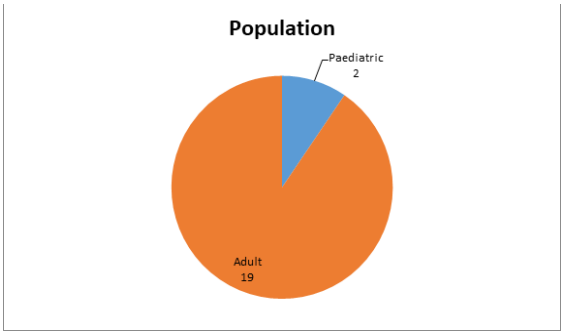

Figure 1: Age group of study population

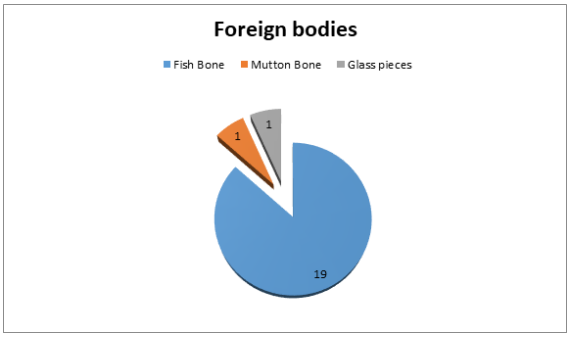

Figure 2: Foreign Bodies

All had history of foreign body ingestion. All patients were managed by our institutional protocol, foreign bodies were removed in all cases. Most common foreign body associated was fish bone (19 patients). One patient (child age 9 yrs) had history of ingestion of glass pieces, 18 patients had history of ingestion of fish bone and two patient had history of ingestion of mutton bone. Most of the foreign bodies were old with an average delay in presentation to our institute of time period of 14-21 days. All patients were followed up in ENT outdoor regularly after discharge. None of the patient had re infection or any other complication. 19 patients underwent incision and drainage under general anaesthesia. one of the patient needed tracheostomy as it presented with stridor at the time of presentation.

Figure 3: X ray showing Retropharyngeal abscess with radio opaque foreign body and removed glass pieces from the abscess site.

One child age 9 years presented to emergency with drooling of saliva, odynophagia and fever. The parents gave suspicious history of foreign body

ingestion. Plain X ray showed retropharyngeal abscess with radio opaque densities. Child was immediately planned for incision and drainage of abscess and glass pieces were removed from the retropharyngeal abscess drainage area.

Figure 4: X ray soft tissue neck lateral view showing retropharyngeal abscess

Majority of other patients presented were adults and most of their complaint was fish bone ingestion 10 – 21 days back. Among the 21 patients, foreign bodies were removed from the abscess cavity site in all patients. CT scan showing foreign body impacted in pyriform sinus region in one patient. 19 patients had fish bone impacted and in one patient meat bone was seen impacted and in one children glass pieces impacted were removed.

Figure 5: After incision and drainage of abscess day 3 with Ryle's tube

20 were operated under direct laryngoscopy guided incision and drainage under general anaesthesia and a rigid oesophagoscopy examination was made in all suspected cases of foreign body. One patient had stridor at the time of presentation. tracheostomy was done in the patient immediately after admission and the radiology studies were done later which showed retro pharyngeal abscess. Then the patient was prepared for surgical drainage, after stabilising the condition tracheostomy decannulation was done after 15 days.

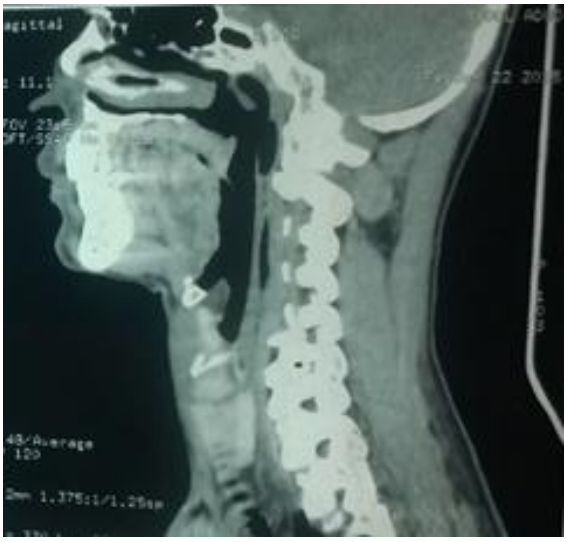

Figure 6: CT scan showing foreign body impacted in the pyriform sinus

DISCUSSION

Deep neck space infections are life threatening complication that are commonly missed diagnosis. Retropharyngeal space infection frequently originates from an infection in the nose, Para nasal sinuses or nasopharynx or it can also present because of an old foreign body. Penetrating and blunt trauma to neck and pharynx can also provide a portal of entry for infection of the retro pharyngeal and lateral pharyngeal spaces. In countries like India tubercular infection of the vertebral bodies (Potts abscess) can lead to pre-vertebral (retropharyngeal) space infection.[1] In cases of children with deep neck space infection outcome is usually very poor if it is not diagnosed early and treated properly. So one thing can be made clear here, that is a standard protocol is a must to save patients life threatening complications. The simplest and most readily available imaging study to evaluate deep neck space infection is the anteroposterior and lateral soft - tissue radiographs of the neck and pharynx, especially in which there is suspicion of retro pharyngeal or pre vertebral space infection with or without impacted foreign bodies.[2] These lateral cervical films are interpreted by measuring the distance from the anterior aspect of the vertebral body to the air column of the posterior pharyngeal wall.[3] At the level of C-2, the normal distance may be as wide as 7mm in both adults and children. At the level of C-6, the normal distance may be as much as 22 mm in adults and 14mm in children. Values more than these are indicative of infection in the retro pharyngeal space. A chest x-ray may identify complication of deep neck infection like mediastinal extension, lung abscess, pyo pneumothorax. The presence of an infiltrate on chest

X-ray can suggest aspiration and necessitates aggressive management of patient. Ultra sound has been recommended to differentiate between cellulitis, abscess and adenopathy in head and neck infection.

CT has been reported to have high sensitivity for detection of head and neck space abscess. The appropriate care of patients with DNI requires an accurate determination of cellulitis vs abscess formation. CT is the most preferred radiological investigation for making this differentiation but is not totally trustable source. Hence surgical intervention is based on combination of clinical manifestation and radiological findings. The use of CT or MRI is not done in an acute situation in which there is potential respiratory distress immediate tracheostomy is done and then planning can be done.[4-6]

In cases of children with toxic features, drooling of saliva, care must always be given and diagnosis should not be missed at any cost. Simple plain X ray will easily aid in the diagnosis. General practitioners and paediatrician has to refer the patient immediately in cases of suspicion to the ENT surgeon. Delay in diagnosis can lead to life threatening complications and even death.[7,8]

Most of the patients were from peripheries of west Bengal. All patients were having a history of foreign body ingestion at least 10 – 21 days back. Delay in diagnosis is one of the important reason for development of abscess in all cases. Most of the patient were either visiting a quack or a homeopathy doctor rather than visiting a primary health centre. This was one of the important reason for late presentation.

One another important dilemma in a case of retropharyngeal space abscess is whether immediate surgical intervention needed or not. Some literature suggest conservative management, but from our institutional experience if there is history and radiological investigation suggestive of foreign body with abscess and the patient is also developing respiratory distress, surgical intervention is an immediate need to save the life of the patient.[9,10]

CONCLUSION

Deep- neck space infections still are a cause of high mortality in rural areas of developing countries like India. Delayed presentations with respiratory and other complications, ignorance among patients are factors for high mortality. Delayed presentation in cases of paediatric population may compromise life. The patients usually attend medicine or paediatric emergency wards with respiratory distress. The physicians and paediatrician should have high index of suspicion and consult the otolaryngologist without delay to rule out deep-neck space infections. And an otolaryngologist by following an institutional protocol this dreadful condition can be cured.

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