



CASE REPORT

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Thyroid Gland Sinus Caused by Foreign Body Esophago-tracheal Migration: A Case Report

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ABSTRACT

Case presentation: A 56 year-old female was seen at the rural hospital with a complaint of discharging sinus for four months, prior to this complaint she presented with chronic cough that received several medical treatment including two rounds of full dose of anti-TB were unsuccessful. Surgical exploration of the discharging sinus was performed to discover a sharp metallic object traversing through the neck tissues to the trachea. The original portal of entry was unknown but logged into the trachea and making a thyro-cutaneous discharging sinus, it was successfully removed and patient improved significantly thereafter.

Conclusion: Aero-digestive FB is not uncommon medical conditions that requires immediate attention, misdiagnosis can lead to wrong course of treatment and cultivate more serious complications, aero-digestive endoscopy forms the cornerstone in the diagnosis and treatment however limited by the availability of facilities and expertise in most centers worse in rural setting.

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Non erosive reflux disease, Foreign body, Proton Pump Inhibitor, Gastrointestinal.

Abbreviations

FB: Foreign body, GI: Gastrointestinal, PPI: Proton Pump Inhibitor, NERD: Non erosive reflux disease.

Introduction

FB in the upper aero-digestive system is a life threatening situation, clinically presents with spectrum of signs and symptoms from minimal symptoms, often unobserved, to GI obstruction and respiratory compromise and failure, without prompt intervention and challenges in therapeutic and diagnosis of FB in aero digestive system can lead to death [1]. Common in children [2-4] than in adults which is more associated with advanced age, alcohol/drugs intoxication, mental disorder or retardation and intentional swallowing [2]. In the report, we present a case of a 56-year-old female patient who was misdiagnosed with PTB and received two rounds of ant-TB without improvement subsequently developed a pus discharging sinus on the right side of the neck, upon surgical exploration a sharp metallic object was recovered from the sinus track penetrating the trachea and the right thyroid gland, the patient improvement from symptoms thereafter.

Case

A 56-year-old female patient presented to a surgical outpatient clinic complaining of a four-month history of discharging sinus on the anterior neck without pain, fever, chest pain, difficulty breathing, or swelling. Before this clinic visit, for the past five years, she has been suffering from chronic cough which was linked to chronic bronchitis and bronchial asthma after several clinic visitations, and was even treated with ant-TB for PTB for

two rounds, two years apart without significant improvement. She had neither a history of trauma, difficulty swallowing nor aspiration or swallowing of a foreign body.

She had FBP, RFT, and LFT results which were normal, an esophagogastroduodenoscopy was also normal. She was given PPI with minimal improvement on her cough for NERD. Local examination showed a discharging sinus on the right anterior neck without thyroid gland swelling, around the sinus had hard tissues that were fixed to the neck, otherwise, she had no associated regional lymph node enlargement. No images or ultrasound was done at this juncture.

A decision for surgical sinus exploration was made, with the patient in a supine position and neck extended with the aid of the pillow under the shoulders. Surgical site was prepared and the patient draped aseptically. An elliptical neck incision was made crossing the sinus followed by upper and lower skin flap development, opening the neck fascia at the midline, and later longitudinal separation of neck muscles to expose the thyroid gland on the right. The fibrous tract was identified and followed and was found to end into the trachea traversing through the right lobe of the thyroid gland. Further mobilization was done to identify the RLN and secured by pushing associated gland membranes posteriorly into the tracheoesophageal groove. In the process of dissection of the tract, a black metallic object came in contact with the dissecting instrument; it was followed to the trachea where it went through into the trachea, so as the fibrotic tissues of the sinus track covered the metallic object, the track which included part of the right lobe of the thyroid

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gland was excised, the pin was pulled out from its insertion site in between the tracheal rings and the defect repaired with interrupted stitches of prolene 4/0. Considering the direction of the pin point, the sharp end was pointing outside through the trachea, thyroid gland and finally the skin. Hemostasis well achieved, the wound was closed.

Post-operative recovery was unremarkable, and at one month follow up the patient was symptom-free.



Figure A: Black sharp metallic object emerging from the neck tissues pointing outside the neck to the skin;



Figure B: Sharp metallic object with the sinus fibrotic tract excised completely.

Discussion

FB in the aero-digestive system is not uncommon, it is the cause of frequent emergency hospital visit among children [5]. FB may be inhaled, ingested, inserted intentionally into a body cavity or accidentally deposited by trauma or iatrogenic injury. Children, mentally ill persons, adults with unusual sexual behaviors and adults or children with pre-existing factors or injurious situational conditions (e.g. drug and/or alcohol abuse, extreme sports, criminal offenders, and those prone to child or spousal abuse) are the main categories of patients who presents with FB in aero-digestive system however; there are medical conditions that can precipitate FB body impaction includes esophageal tumors, strictures, esophageal rings and achalasia [6].

Clinical presentation can be acute or chronic and depends which system and location of the FB has been primarily involved, asymptomatic presentation is not unusual and the patient may progress unaware until later stages when complications begins., nature of the FB influence site of entrapment [7]. Sharp items can lodge anywhere and increases chances of migration if went unnoticed and for long time [8]. Migration from the aero-digestive system to involve other neighboring structures is highly possible from the esophagus to the aorta, pharynx towards the prevertebral fascia and the other externalized in the submandibular region [9]. Migration is favored by the structure of the FB, the larger and pointed structures tend to stuck and produces symptoms early.

FB in the airway system may need bronchoscopy for removal and less often expelled spontaneously. Whereas unstuck FB in the GI can be expelled with feces while those with sharp ends or larger in size removed by esophagoscopy flexible or rigid. However; complicated cases may need surgery. Thus misdiagnosis due to migration of the foreign body from one system to another is not uncommon and can lead to mistreatment, in this case the patient was misdiagnosed for pulmonary tuberculosis and received rounds of full course of anti-TB two years apart without any significant improvement, after surgery the patient's symptoms subsided completely at one month follow up.

Conclusion

Diagnosis and treatment of FB in aero-digestive system is challenging especially in resource limited area. Diagnosis requires prompt history taking and appropriate diagnostic and therapeutic equipment to avoid mis-diagnosis and treatment. Aero-digestive endoscopy is the basis for the diagnosis and treatment of aero-digestive FB, however surgery is reserved for complicated cases.

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