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METALLIC AERODIGESTIVE FOREIGN BODY IN AN ADULT FOLLOWING SUBSTANCE USE: A CASE REPORT AND MANAGEMENT CHALLENGES

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Abstract

Introduction: Foreign body (FB) ingestion in adults has been strongly linked with mental illnesses however, FB inhalation is not as common. We highlight the challenges of managing these potentially life-threatening conditions in a patient with mental illness.

Case Report: The patient is a 40-year-old single Man being managed for flexure contracture of the right elbow joint following a poorly managed ulcer which he developed 1 year prior to presentation. There was no previous history of mental illness, however patient occasionally uses hard drugs. While on hospital admission, he was said to have sneaked out of the premises to take some psychogenic substances which he later identified as "Colorado" (a synthetic cannabinoid) and returned with irrational behaviours and psychotic manifestations. This prompted the security men to attempt to restrain him, and in a bid to evade this, he entered the pharmacy store at the accident and emergency, chased out the personnel, locked himself up and put the keys into his mouth. He subsequently developed recurrent bouts of cough, but no shortness of breath or noisy breathing. No odynophagia nor dysphagia. The mental Health team who visited him in the ward placed him on some anti-psychotic medications with good outcomes. Two days later, He passed one of the keys in the stool, but the respiratory symptoms persisted, thus raising the suspicion that the other key was lodged within the lower airway. A chest X-ray showed that it was lodged at the carina and projected into the left main bronchus. He had an emergency rigid bronchoscopy, and the FB was retrieved. The caregiver is a close friend of his, and efforts to reach his immediate family members have not been fruitful. He is currently on follow-up with the mental health team to avoid any recurrence.

Conclusion: Management of aerodigestive FBs amongst mentally ill patients can be very challenging. Close monitoring of psychiatric compliance and family support is paramount to prevent future recurrence and potentially life-threatening complications of this condition.

Keywords: Foreign body, Ingestion, Aspiration, Mental illness, Aerodigestive.

INTRODUCTION

Most cases of foreign body (FB) ingestion and aspiration are accidental events in children. Occurrence in adults is uncommon but has been reported amongst deeply unconscious adults intoxicated with alcohol and those with psychiatric or neurological disorders. Even amongst mentally impaired individuals, reports of FB aspiration are not as common as FB ingestion. Aspirated FB could pose a life-threatening emergency due to its potential to compromise the lower airway. It therefore requires prompt identification and intervention. When the diagnosis is not established quickly, residual airway FBs might lead to repeated pneumonias, bronchiectasis, recurrent hemoptysis, pneumothorax, lung abscesses, pneumomediastinum, or additional complications.

Very often, swallowed foreign bodies (80 - 90%) are naturally disposed of in the faeces. Whereas 10 - 20% of cases would require endoscopy to remove the foreign body and less than 1% would require open surgery to remove the foreign body or treat its complications. These individuals are at risk of serious health complications such as bezoars, impaction, intestinal obstruction, abscess formation, perforations, fistula and infections. In addition, the management of aerodigestive foreign bodies utilizes significant medical care resources. A retrospective study from the United States (US) estimated over 2 million US Dollars in cost for 33 different patients identified in 305 cases of recurrent foreign body ingestion. This is a significant burden on scarce medical resources.

This case highlights the potential difficulties

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associated with foreign body ingestion and aspiration in patients with mental illnesses. It emphasizes the importance of comprehensive treatment plans that address not only the physical complications of the ingested or aspirated FB but also the underlying mental illness. The findings of this case report could have profound implications for the holistic care of this disadvantaged patient population by implementing a timely and comprehensive management approach that addresses both the foreign body aspiration and the underlying psychiatric illness, including initiation and monitoring of psychiatric treatment compliance.

Informed consent was obtained from both the patient and caregiver prior to the preparation of this report. All patient details have been fully anonymized to ensure confidentiality

CASE REPORT

A 40-year-old single man, who was managed by the plastic surgery team for flexure contracture of the right elbow joint following a poorly managed ulcer which he developed 1 year prior to presentation and has been on admission at Nnamdi Azikiwe University Teaching Hospital, Anambra state, a tertiary health institution for approximately 3 months. There was no previous history of mental illness, however, he occasionally uses hard drugs. While on Hospital admission, he was said to have sneaked out of the Hospital premises, as in the past to take some psychogenic substances, which he later identified as Colorado (a synthetic cannabinoid) and returned with irrational behaviours and psychotic manifestations, which included severe agitation and violent behaviour. No previous history of similar manifestations and no family history of mental illness, however there is a significant history of alcohol and substance use. An attempt was made by the security men to restrain him, and in a bid to evade this, he went into the pharmacy store at the accident and emergency department, chased out the personnel, locked himself up and put the keys into his mouth. The security men broke into the store to prevent him from causing further self-harm and damage to the Hospital facilities, and in the process, the rescuers sustained various degrees of bodily injuries. The patient subsequently developed recurrent bouts of cough, but no shortness of breath and no noisy breathing. No odynophagia nor dysphagia. The Mental Health team was invited to see him and made a diagnosis of substance-induced psychotic disorder. They placed him on parenteral Haloperidol and subsequently Olanzapine tablets with good clinical outcomes. Two days later, He passed one of the keys in his stool, but the respiratory symptoms persisted. Chest examination revealed expiratory rhonchi globally, thus raising the suspicion that there was a foreign body (FB) lodged within the lower airway. A chest X-ray done showed a single metallic object (key) lodged at carina and projecting into the left main bronchus (Figs 1 & 2). He had an emergency rigid bronchoscopy, and the FB was retrieved (Fig 3). On further careful search, there was no other residual FB seen. He was placed on intravenous antibiotics and steroids, and the lower chest symptoms have all resolved. The caregiver is a close friend of his, and all efforts to reach his immediate family members have not been fruitful. He is currently on follow-up with the mental health team to avoid any future recurrence. The nurses and Security Men have been instructed to keep close watch over him and restrict his movement and access to some friends who may be the potential source of the hard drugs he uses, but this has not been effective as the patient has on several occasions left the Hospital premises unsupervised.

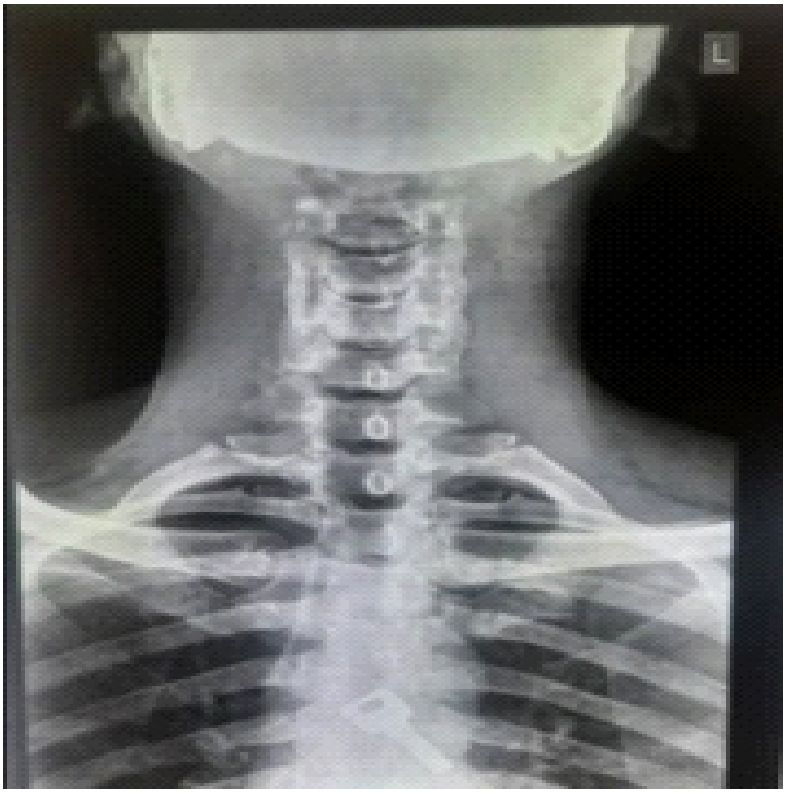

Figure 1: Chest Xray (PA View) showing a metallic FB at the carina and slightly projecting into the Left main bronchus

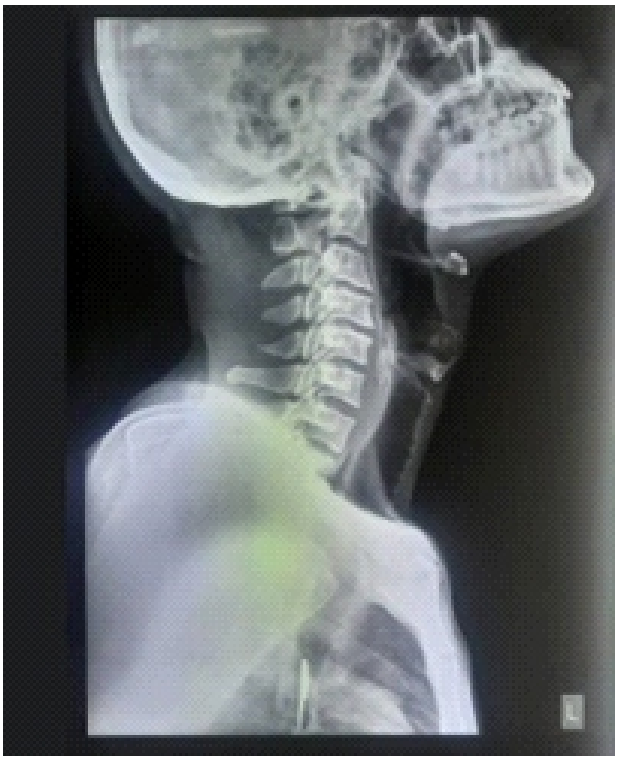

Figure 2: Chest Xray (Lateral view) showing the metallic FB lodged within the lower airway.

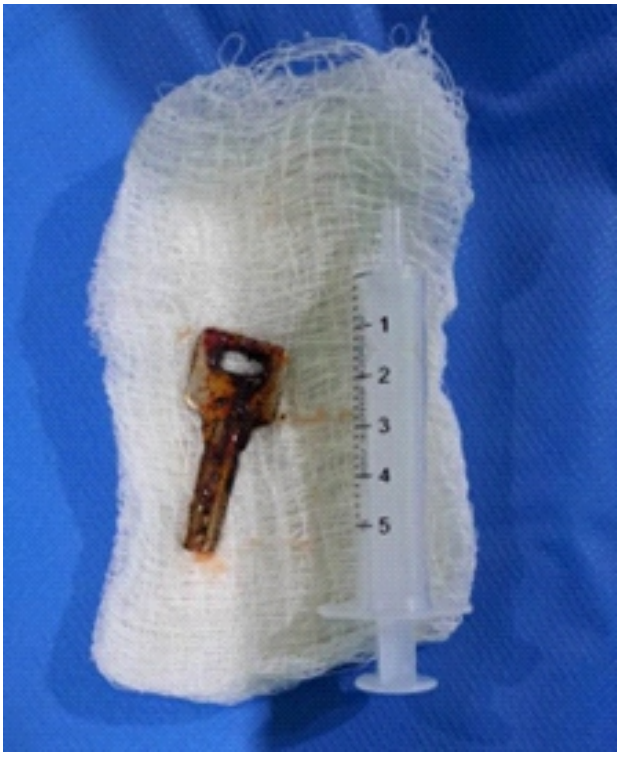

Figure 3: A picture of the metallic FB after bronchoscopic removal.

DISCUSSION

Mental illnesses like schizophrenia, bipolar disorder, depression, and multiple substance use have been linked to foreign body ingestion and aspiration. This may be as a result of delusional thoughts or hallucinatory commands. The index patient developed psychotic manifestations following substance use. We consequently instituted a prompt and comprehensive management strategy to address both the FB aspiration and the underlying mental illness by instituting and monitoring psychiatric compliance. However, this has been faced with serious difficulties as the patient still moves out of the Hospital unsupervised and may have unfettered access to more hard drugs despite adequate counseling. Moreover, none of his close family members have been identified. These have posed great challenges to his management. Adequate family support is indispensable to the patient's treatment compliance and avoidance of future recurrence of deliberate FB ingestion and aspiration. Shengjian et al considered this even more important than endoscopic removal of the FB, if not presenting acutely.[6] Gitlin et al made similar recommendations in their report.[7]

Foreign body ingestion alone causes up to 1500 deaths in the United States each year.[8] This significant mortality rate is of great public health concern. Though most patients who ingest FB will eventually pass it out in stool as seen in the index case, a significant number may develop serious complications such as bezoars, impaction, intestinal obstruction, abscess formation, perforations, fistula and death.[5,9] These are avoidable occurrences that pose a significant burden on our scarce health resources.

We call for Government commitment as well as individuals, and other corporate bodies like the church to invest in the treatment and rehabilitation of mentally ill patients. In addition to improving mental health care, active public health campaigns against substance use and policies that limit access to these harmful substances play a critical role in prevention. Substance use not only exacerbates underlying psychiatric illness but also independently contributes to risky behaviors like foreign body ingestion and aspiration. These interventions will help to reduce the incidence of FB ingestion and aspiration with its attendant life-threatening complications among these vulnerable members of our society.

CONCLUSION

Treatment of aerodigestive FBs in mentally ill patients could be very challenging. Comprehensive management of the ingested or aspirated FB and the underlying mental illness including psychiatric intervention and regular follow-up with adequate family support is indispensable to avoid future relapse and recurrence.

REFERENCES

1. Afiadigwe E, Ndukwu C, Umeh U, Obidike A. Bronchial foreign body mimicking chronic cough and recurrent bronchopneumonia: diagnostic dilemma in a resource-poor setting. Orient J Med. 2023;35(1-2):17. doi:10.5281/zenodo.7263397
2. Hewlett JC, Rickman OB, Lentz RJ, Prakash UB, Maldonado F. Foreign body aspiration in adult airways: Therapeutic approach. J Thorac Dis. 2017;9(9):3398-3409. doi:10.21037/jtd.2017.06.137.
3. Bangash F, Megna JL, Leontieva L. Deliberate Foreign Body Ingestion in a 35-Year-Old Woman With Borderline Personality Disorder and Several Psychiatric Comorbidities. Cureus. 2021;13(2):4-9. doi:10.7759/cureus.13179.
4. Ag A, An U, Me O, et al. Unique Foreign Bodies in the Aerodigestive Tract. J Nurs Healthc. 2017;2(2):4-7. doi:10.33140/jnh/02/02/00006
5. Jaini PA, Haliburton J, Rush AJ. Management Challenges of Recurrent Foreign Body

Ingestions in a Psychiatric Patient: A Case Report. J Psychiatr Pract. 2023;29(2):167-173. doi:10.1097/PRA.0000000000000694

6. Jin S, Horiguchi T, Ma X, Yuan S, Liu Q. Metallic foreign bodies ingestion by schizophrenic patient : a case report. :2023;85(4):p 1270-1272.
7. Gitlin DF, Caplan JP, Rogers MP, Avni-Barron O, Braun I, Barsky AJ. Foreign-body ingestion in patients with personality disorders. Psychosomatics. 2007;48(2):162-166. doi:10.1176/appi.psy.48.2.162.
8. Poynter BA, Hunter JJ, Coverdale JH, Kempinsky CA. Hard to swallow: A systematic review of deliberate foreign body ingestion. Gen Hosp Psychiatry. 2011;33(5):518-524. doi:10.1016/j.genhosppsych.2011.06.011.
9. Divsalar P. Repeated Intentional Swallowing of Foreign Objects by an Adolescent Girl (Case Report). 2023;12(2).