

A debt repaid? A case of an unusual foreign body found in the nasal cavity

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Abstract

The appearance of nasal foreign bodies is well reported in children but hardly ever seen in adults. These objects are often easily identified and removed. This report documents an unusual case of a bank note lodged in the nasal cavity of an adult male. The foreign body in question presented a significant diagnostic challenge both from a clinical and radiological perspective. Careful review of the case history, as well as clinical and radiographic features, led to appropriate management and avoidance of unnecessary interventions. Clinicians involved in head and neck surgery and radiology should suspect, and be aware of the radiographic appearance, of a wide variety of foreign bodies.

Keywords: bank note, cone beam computed tomography, nasal trauma, foreign body

Introduction

Foreign bodies of the nasal cavity are frequently reported in the paediatric population. The incidence of such occurrences in adults is, however, much less common. While many foreign bodies are easily identifiable, the nature of others may not be immediately apparent. This article reports an unusual foreign body lodged in the nasal cavity of an adult which presented a significant diagnostic challenge. Ethical clearance was provided by the Research Ethics Committee of the Faculty of Health Sciences, University of Pretoria (protocol 558/2019).

Case report

A 37-year-old male presented at the Department of Maxillofacial and Oral Surgery at the University of Pretoria with difficulty breathing through his right nostril. He was reportedly assaulted 1 week prior to consultation. A foul-smelling discharge from the same nostril was also reported. As the patient was intoxicated at the time of assault, he could not provide further details.

Smoking and excessive alcohol use were the only findings of significance in the medical history. The patient denied the use of any illicit substances. Examination revealed swelling of the right side of the nasal bridge. Ecchymosis of the nasal columella with swelling of the right nasal septum was noted. Lateral to the right side of the nasal septum appeared what seemed to be either a fractured segment of bone or an unidentifiable foreign body. Clotted blood in the nasal cavity provided evidence of previous bleeding. Intra-oral examination revealed no abnormal findings.

Clinically, differential diagnoses included trauma-associated nasal fracture with septal haematoma, foreign body implantation with destruction of associated nasal structures, and possible sinonasal carcinoma given the history of smoking. Due to the initial inability to make a clinical determination of the cause of the unusual intranasal appearance, a cone beam computed tomography (CBCT) scan of the nasal cavity was requested (Fig. 1).



Figure 1. Coronal section of a CBCT scan of the nasal cavity showing a space-occupying lesion of the right nasal fossa. Septae indicated by the arrows.

Mucosal thickening of the floor of the right nasal fossa as well as the floor and lateral wall of the right maxillary sinus was seen radiographically. The right nasal fossa was enlarged with deviation of the nasal septum to the left.

Occupying the right nasal fossa was a radiopaque lesion of mixed radiodensity. This opacity contained radiopaque septae which divided air spaces embedded within the opacity. The lesion had a multilocular appearance.

The radiological report considered likely the existence of mixed soft tissue pathology, with differential diagnosis including sinonasal ossifying fibroma, chronic rhinosinusitis and invasive fungal sinusitis. Definitive diagnosis on imaging alone was not possible.

The right nasal fossa was explored to determine the nature of the cause of these symptoms. During exploration, the suspected lesion was found to be mobile, grasped with tissue forceps and removed. Examination of the object revealed a curious find: a 50 rand bank note (currency of the Republic of South Africa), folded and rolled into a compact mass. Figure 2 shows the unrolled bank note.

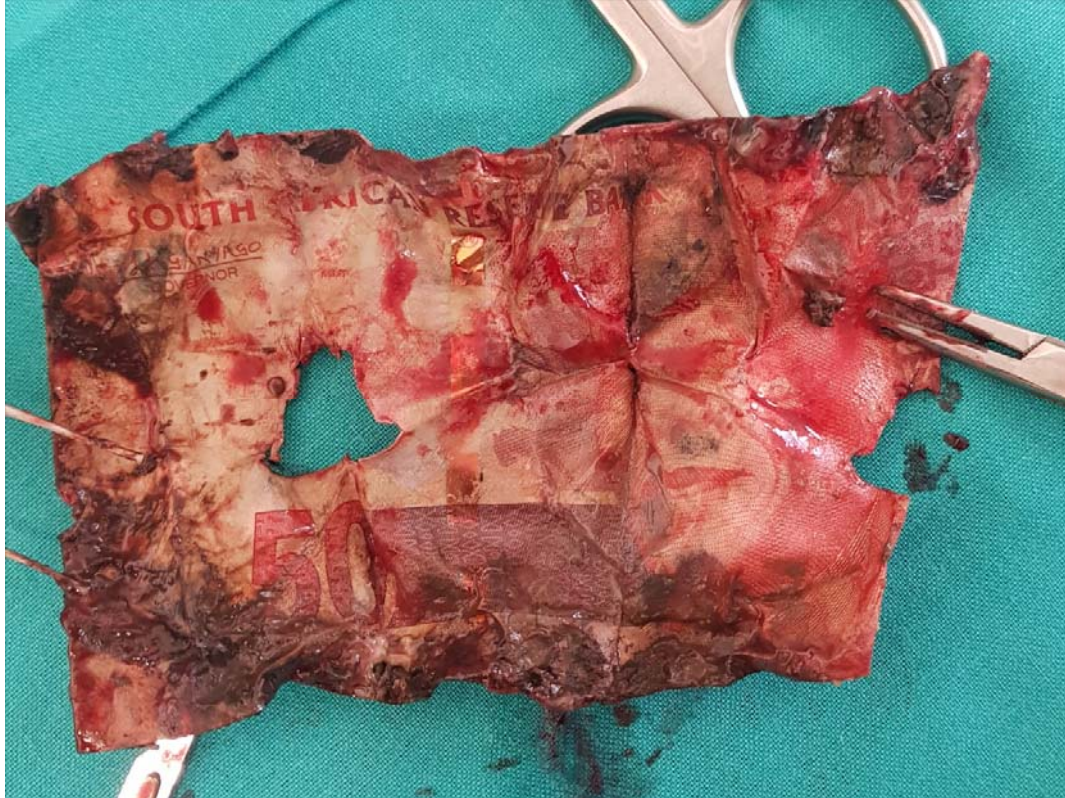


Figure 2.South African 50 rand note retrieved from the right nasal fossa.

Discussion

With a mean age of approximately 3 years,^{1,2} nasal foreign bodies are an unusual finding in adults. Therefore, given a limited clinical history, diagnosis of intranasal foreign bodies may be challenging. This is especially true given the limited description of the radiographic appearance of bank notes available in existing literature.

The authors could find no other reports of bank notes in the nasal cavity of adults. Only one case of the appearance of bank notes on computed tomography (CT) was found: a stack of bank notes in the stomach of an adult.³ This limited description of the appearance of bank notes on CT scans prompted the authors to perform a CBCT scan of a single rolled bank note. A similar layered appearance was seen on evaluation (Fig. 3). Recognition of this uncommon radiographic pattern may aid practitioners in determining the nature of unknown objects and avoid unnecessary biopsy or surgical procedures.

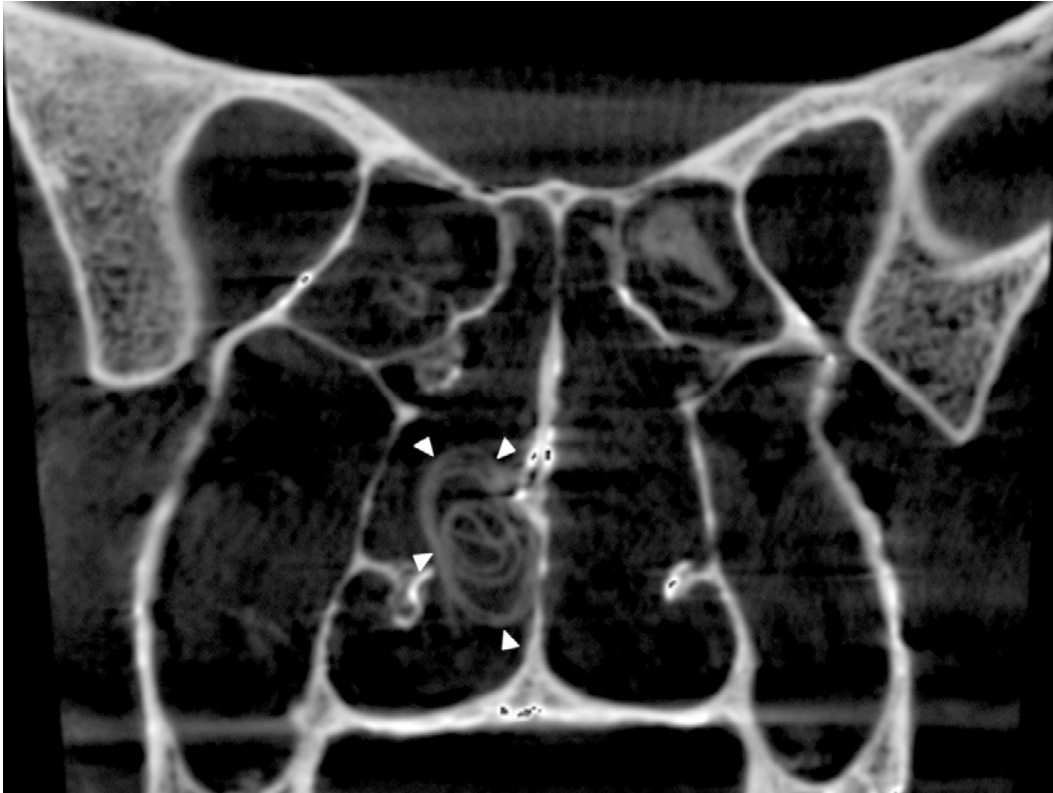


Figure 3. CBCT scan simulating the appearance of a rolled bank note in a dry skull (arrows).

Reported complications associated with nasal foreign bodies include: epistaxis, local infection with rhinorrhoea,¹ aspiration,⁴ bacterial meningitis⁵ and hypersensitivity pneumonia.⁶ Nasal foreign bodies have also been confused with malignant pathology when associated with local soft tissue reaction and radiographic appearance of bone erosions.⁷ Given these complications, the identification and removal of foreign bodies should not be delayed.

Conclusion

Identification of bank notes lodged in body cavities may represent a significant diagnostic challenge. Clinicians may benefit from the recognition of the radiographic appearance of rolled notes enabling differentiation from other radiographic anomalies, including hard and soft tissue pathology. The clinical history should always be taken into consideration – this facilitates diagnosis in difficult cases. As to the origin of the money, the authors can merely speculate.

Conflict of interest

The authors declare that there is no conflict of interest.

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