International Scholars Journals

African Journal of Medical Case Reports ISSN 2756-3316 Vol. 14 (1), pp. 001-005, January, 2026. Available online at www.internationalscholarsjournals.org © International Scholars Journals

Review

Severe Hemorrhage and Fatal Outcome Following Oropharyngeal Impalement Injury in a Child

A. A. Adoga*, M. B. Sandabe, A. Bemu, E. Musa, A. A. Bakari, A. M. Kodiya and B. M. Ahmad

National Ear Care Center, No. 3 Golf/Independence Way, P. M. B. 2438, Kaduna, Nigeria.

Accepted 22 October, 2025

Impalement injuries of the oropharynx are especially common in children. They may be innocuous injuries but can present with life threatening sequele which range from neurologic to non-neurologic sequele. Herein, we report the first of this type of injury from Nigeria and it was a 2 year old female child who presented with a rod like metallic object embedded in her oropharynx following a fall on the same object. She had surgical removal of the foreign object with seeming uneventful recovery but experienced severe hemorrhage in the 12th postoperative hour that lead to her demise. The purpose of this report is to highlight this type of injury even in our environment and to emphasize that a high index of suspicion is required in assessing the extent of injury in these patients in order to institute timely and appropriate treatment to avoid life threatening sequele.

Key words: Oropharynx, impalement injury, child, death, Nigeria.

INTRODUCTION

Oropharyngeal impalement injuries are potentially life-threatening injuries with variable manifestations (Morrow and Clevenger, 1993). They occur commonly in children, especially toddlers due to their propensity to fall easily while carrying objects in their mouths (Younessi and Alcaino, 2007; Zonfrillo et al., 2008). Although most of these injuries do not have, lasting devastating sequele and they may appear harmless; the resultant complication may be intravascular thrombosis of the internal carotid artery with devastating neurologic manifestations (Younessi and Alcaino, 2007; Hellmann et al., 1993). The symptoms of this complication are usually delayed with a report of a life-threatening thrombus stretching from the internal carotid artery to the brain (Morrow and Clevenger, 1993; Bar et al., 2002); therefore, close monitoring of affected patients even after removal of the foreign object is recommended. Other complications that may follow this type of injury include retropharyngeal abscess and mediastinitis (Kosaki et al., 1992). The majority of injuries causing thrombosis of the internal carotid artery occur in the peritonsillar region of the lateral palate.

To the best of our knowledge, there has been no report in literature of an impalement injury to the oropharynx from this country. A case of oronasal fistula in a child occurring from a fall upon a nail had been earlier reported from a tertiary center in our country (Adoga et al., 2008). We therefore present the first case of this type of injury from our region which resulted in the demise of the patient bringing to the fore its existence and stating the need for close monitoring of these patients to avoid life- threatening consequences.

CASE PRESENTATION

A 2-year-old female child was brought to our hospital (National Ear Care Center, Kaduna, Nigeria) by her

*Corresponding author. E-mail: adeyiadoga@gmail.com.

Figure 1. Patient as seen on presentation.

parents with a rod-like metallic object embedded in her throat two hours after she fell on the object which she was playing with in her mouth. She was said to have bled from the throat but the parents could not quantify the volume of blood loss. They had taken her to other hospitals before presenting to ours.

The patient was conscious and apprehensive at presentation, not in respiratory distress, not pale and afebrile. In the oral cavity, a cylindrical metallic object was protruding between the patient's lips (Figure 1), embedded in the right tonsil, and covered with blood clots with a visible soft tissue swelling noted on the right posterior-lateral aspect of the neck. There was no clinical evidence of surgical emphysema. There was no exit point and no active bleeding. Other head and neck examination findings were normal.

Plain radiograph of the soft tissue of the neck showed a radio-opaque rod-like object extending horizontally from the level of the second cervical vertebra and outwards in between the patient's lips (Figure 2).

Computerized tomographic angiography (CTA) was requested but not done because the patient's parents could not afford it. She had a packed cell volume (PCV) of 34%. Other investigations performed include urea and electrolyte and clotting profile which were all within normal limits.

She had tetanus prophylaxis and was commenced on intravenous ceftriaxone and metronidazole, intramuscular paracetamol.

She was prepared for and had foreign body removal with tonsillectomy. Intraoperatively, a metallic rod later identified to be the spoke on the wheel of a motor-bike (Figure 3) was found penetrating through the right tonsil which was grossly inflamed and covered with blood clots. The metallic object was dissected free from the tonsil and both tonsils were dissected from their fossae. The parenteral antibiotics and analgesic were continued postoperatively.

Two hours postoperatively, reassessment in the intensive care unit revealed patient to be awake, afebrile and not pale with stable vital signs. Her tonsil fossae were dry. However, about 12 h postoperatively, she started coughing out blood clots with torrential bleeding from the oropharynx. Efforts at maintaining hemostasis and resuscitation failed and she expired about 10 min afterwards.

Figure 2. Soft tissue neck X-ray showing the radio-opaque rod like foreign object.

DISCUSSION

The oropharynx is particularly vulnerable to injury in children who fall with certain pointed objects in their mouths. These injuries are usually not witnessed by the parents or guardians and even when they are, the patients do not present to the hospital unless there are associated symptoms such as bleeding, dysphagia or pain (Soose et al., 2006). Our patient presented 2 h after injury having presented to other hospitals were nothing was offered her.

Clinical signs are quite subtle as in this case, therefore a high index of suspicion is necessary so that these life threatening injuries do not go un-noticed. These seemingly innocuous injuries may have delayed life threatening sequele which include occult internal carotid artery damage with aphasia, hemiplegia and even death (Hengerer et al., 1984). The proposed mechanism of injury is compression of the internal carotid artery between the penetrating object and the transverse process of an upper cervical vertebra resulting in intimal tear in the vessel, thrombus formation that dislodges and is transported to the brain (Suskind et al., 1997). A “lucid interval” occurs which is thought to be the time interval during which a thrombus is formed and propagated to the cerebral vessels. This interval reportedly ranges from 3 to 60 h after the injury (Incollingo and Shevchenko, 2007).

A thorough pre-anesthetic review of these patients including type and extent of injury is required. If internal carotid artery intimal injury is detected before the onset of neurologic features, antibiotic and anticoagulant therapy can be commenced to prevent it (Soose et al., 2006). Vascular lacerations when they occur will require urgent surgical exploration and repair.

Other non-neurologic sequele may occur such as bleeding, retropharyngeal abscess, facial cellulitis, velopharyngeal insufficiency and pneumomediastinum (Ratcliff et al., 2003). Diagnosis can be made radiologically ranging from plain lateral neck radiographs to contrast enhanced CT angiography (CTA) (Ratcliff et al., 2003).

In cases where there is a doubt in the presence of a pharyngeal perforation, plain lateral soft tissue radiographs can help in the diagnosis when it shows the presence of retropharyngeal air (Smyth et al., 1996). The foreign object was noted in the plain lateral neck radiographs of our patient but it could not tell the degree of tissue injury. The routine use of CTA may assist in

Figure 3. The extracted foreign object.

the evaluation of patients with these types of injuries to detect injuries that could lead to severe complications as it shows the presence of vascular intimal tear (Brietzke and Jones, 2005). Computerized tomographic angiography is supposed to provide a quick, convenient and relatively inexpensive method with low associated morbidity of promptly diagnosing internal carotid artery injury (Suskind et al., 1997).

The sensitivity of CTA when compared to contrast angiography has been found to be 90% for penetrating neck injuries (Munera et al., 2000). Perhaps a doppler ultrasound scan would have detected any abnormality in the integrity of affected vascular walls and would have probably changed the course of management and averted the outcome.

The cost of CTA is 45,000 Naira ($285) in our environment. Our patient declined this investigation due to unavailability of funds. This would have helped in identifying internal carotid artery injury with subsequent appropriate intervention.

The probable mechanism of injury leading to death in this patient is a laceration in a vessel wall following penetration into the parapharyngeal space by the metallic foreign object. The laceration which was occluded by a thrombus probably became dislodged prematurely with torrential hemorrhage, exsanguination of the patient and death. Public awareness to these types of injuries needs to be heightened and medical staff managing these patients should know that even though the clinical symptoms and signs may be subtle, a high index of suspicion to life threatening consequences following these injuries is required. On the other hand, parents and guardians should exercise extra caution in the handling of their children and wards to prevent such injuries.

REFERENCES

Adoga AA, Adoga AS, Nwaorgu OG (2008). An unusual oronasal foreign body: report of a case. Niger J. Med., 17(4): 459-61.

Bar T, Zagury A, Nahlieli O, London D, Yoffe B, Bibi H (2002). Delayed signs and symptoms after oropharyngeal trauma in a child. Oral Surg Oral Med. Oral Pathol. Oral Radiol. Endod., 94(1): 15-7.

Brietzke SE, Jones DT (2005). Pediatric oropharyngeal trauma: what is the role of CT scan? Int. J. Pediatr. Otorhinolaryngol., 69(5): 669-79.

Hellmann JR, Shott SR, Gootee MJ (1993). Impalement injuries of the palate in children: review of 131 cases. Int. J. Pediatr. Otorhinolaryngol., 26(2): 157-63.

Hengerer AS, De Groot TR, Rivers RJ, Pettee DS (1984). Interval carotid artery thrombosis following soft palate injuries: a case report and review of 16 cases. Laryngoscope, 94(12pt1): 1571-75.

Incollingo F, Shevchenko Y (2007). Airway management in a child with penetrating pharyngeal wall foreign body injury; a case report. AANAJ, 75(5): 329-32.

Kosaki H, Nakamura N, Toriyama Y (1992). Penetrating injuries to the oropharynx. J Laryngol Otol.; 106(9): 813-6.

Morrow KS, Clevenger FW (1993). Oropharyngeal impalement on a wrought iron fence. South Med. J., 86(11): 1306-9.

Munera F, Soto JA, Palacio D, Velez SM, Medina E (2000). Diagnosis

of arterial injuries caused by penetrating trauma to the neck: comparison of helical CT angiography and conventional angiography. Radiology, 216(2): 356-362.

Ratcliff DJ, Okada PJ, Murray AD (2003). Evaluation of pediatric lateral oropharyngeal trauma. Otolaryngol Head Neck Surg., 128(6): 783-787.

Smyth DA, Fenton J, Timon C, McShane DP (1996). Occult pharyngeal perforation secondary to pencil injury'. J Laryngol Otol, 110(9): 901-903.

Soose RJ, Simons JP, Mandell DL (2006). Evaluation and management of pediatric oropharyngeal trauma. Arch. Otolaryngol. Head Neck Surg., 132(4): 446-451.

Suskind DL, Tavill MA, Keller JL, Austin MB (1997) Management of the carotid artery following penetrating injuries of the soft palate. Int. J. Pediatr. Otorhinolaryngol., 39(1): 41-49.

Younessi OJ, Alcaino EA (2007). Impalement injuries of the oral cavity in children: a case report and survey of the literature. Int. J. Pediatr. Dent., 17(1): 66-71.

Zonfrillo MR, Roy AD, Walsh SA (2008). Management of pediatric penetrating oropharyngeal trauma. Pediatr Emergency Care, 24(3): 172-175.