

Case Report

Severe Respiratory Distress Complicating a Tracheal Wound by Attempted Autolysis: Management of a Case in a Regional Hospital with Limited Technical Resources in Togo

Essobiyou TB^{1*}, Boko SUR², Ananidjin G², Keheou AP¹, Issa M¹ and Bissa H²

¹Department of General Surgery, University of Lomé, Togo

²Department of Stomatology, Otorhinolaryngology, Maxillofacial, Head and Neck Surgery, University of Lomé, Togo

*Corresponding author: Essobiyou Tamassi Bertrand, General Surgery Department, University of Lomé, 198 Hospital Street, Togo

Received: August 08, 2022; Accepted: August 26, 2022; Published: September 02, 2022

Abstract

Introduction: Penetrating neck wounds are serious and often life-threatening. In the absence of an adequate technical platform, their management is difficult. We report a case of tracheal wound management by a suicide attempt in a regional hospital in Togo.

Case Report: This was a 43-year-old female patient, dealer, with no known pathological history, admitted for an anterior cervical wound by attempted suicide with a knife. She presented with severe respiratory distress with desaturation at 62% on room air. She was urgently admitted to the operating theatre where under general anaesthesia a tracheal wound was found. She underwent orotracheal intubation and was evacuated to an appropriate centre for management.

Conclusion: Potentially serious, penetrating neck wounds require an adequate technical platform and multidisciplinary management.

Keywords: Wound; Cervical; Tracheal; Penetrating; Distress; Respiratory

Introduction

Penetrating cervical wounds refer to any cervical injury involving an invasion of the skin muscle of the neck [1-2]. They cause a wide range of conditions including haemorrhage, upper airway compromise, oesophageal compromise and neurological compromise [1-2]. The severity of a penetrating neck wound is directly related to the vulnerable agent and the site of the wound [1-2].

Penetrating neck wounds are often life-threatening [1-2]. The two potentially fatal conditions are haemorrhagic shock and respiratory distress [2-3]. The initial examination on admission is the key to adequate management, which remains complex and difficult in hospitals with limited technical facilities [1,3]. We report the management of a case of penetrating cervical wound by a suicide attempt in a hospital with limited resources in Togo.

Case Report

The patient was a 43-year-old single retailer and mother of 4 years old, brought to the surgical emergency room by her roommates for respiratory distress following an attempt at autolysis with a kitchen knife. The patient had no known pathological history. On admission, she presented with respiratory distress with a respiratory rate of 38 cycles per minute and a room air saturation of 62%. She was obnoxious with a Glasgow score of 10. The circulatory function was normal with blood pressure 130/70 mmHg, heart rate 100 beats per minute and pulse 100 beats per minute. She had massive emphysema extending from the face to the pelvis. Cervical examination, under general anaesthesia, noted an anterior oval wound of about 3.5cm long



Figure 1: Exploration of the cervical wound in the operating theatre with evidence of the tracheal wound (arrow).

axis, with clean edges and tracheal wall fracture, as well as multiple skin lacerations (Figure 1). Pulmonary auscultation was normal. The patient was quickly admitted to the operating room where we performed orotracheal intubation with assisted breathing and a protective dressing on the neck wound (Figure 2). Her saturation was stabilised at 96%. She received antibiotic prophylaxis with 2g amoxicillin and clavulanic acid, analgesics with 1g paracetamol and 20mg nefopam. No imaging studies were performed on-site. The emergency biology work-up showed a haemoglobin level of 12.3 g/dl, uraemia of 0.3 g/l and creatinemia of 10 mg/l. This was managed by general surgeons and anaesthesia and resuscitation technicians. The centre does not have ENT doctors or anaesthetists or resuscitators. The subsequent hereroanamnesis revealed a notion of financial and social difficulties which would have been the cause of this attempt at autolysis. The patient was conditioned and evacuated to a referral centre with a multipurpose resuscitation unit, ENT doctors and



Figure 2: Orotracheal intubation performed; evidence of massive emphysema.

anaesthetists and resuscitators approximately 4 hours after admission.

Discussion

Penetrating cervical wounds refer to any cervical injury that involves an invasion of the skin muscle of the neck [1-2]. From an anatomical point of view, the cervical region is a region containing noble organs (vascular, digestive, nervous and respiratory) [1-2]. Thus, a cervical wound exposes the patient to 4 major risks: upper airway, neurological, infectious and vascular damage [1-3]. Haemorrhage during these penetrating wounds occurs in one-third of cases, while upper airway injuries are found one time out of ten [1]. Weapons are the main invasive agents in penetrating wounds [2]. They are commonly used in assaults and suicide attempts [2]. The severity of a penetrating stab wound will depend on its location, and the organs injured.

The prognosis is very often life-threatening in the case of a penetrating wound [1-2,4]. The diagnostic approach must be rigorous to allow an exhaustive lesion assessment and thus orientate on the potential seriousness of the wound [2]. It is important to distinguish between an absolute emergency, which is immediately fatal, and a relative emergency, which is life-threatening in the short term. It is also important to bear in mind the dynamism of the lesions and not to hesitate to repeat the examinations [1,4]. Indeed, lesions that are initially harmless may become worse later on [1]. Two absolute emergencies should not be ignored; they are potentially fatal. These are haemodynamic shock and respiratory distress [2-3]. The initial examination of a cervical trauma patient must look for them and their management must be immediate and adapted to the severity of the injuries by the coordinated use of available resources [2-3]. Anatomical knowledge is a fundamental part of this approach [2]. Ideally, the management of cervical wounds should be multidisciplinary, involving emergency physicians, surgeons, resuscitators and radiologists [1].

The management of penetrating neck wounds, due to their complexity and potential severity, requires an adapted technical platform [1-3]. This remains a major challenge for health facilities with limited resources, as is the case in several hospitals in Africa [5]. Emergency life-saving techniques must therefore be perfectly understood to stabilise patients in distress to evacuate them to better-equipped facilities. The management of haemodynamic shock involves the coordinated use of macromolecules (colloids), blood products and tranexamic acid [5]. Actions to be avoided include removing a knife from the operating theatre and re-establishing

blood pressure before reaching the operating theatre [1]. Also, avoid clamping a vessel outside the operating theatre, preferring compression dressings [1,3,6]. In the neck area, the Israeli dressing is a good alternative. Orotracheal intubation, cricothyroidotomy and even intubation through the neck wound are the means of managing respiratory distress from penetrating neck wounds [1,3-4]. Mask ventilation, nasal intubation and intubations outside the block (except for severe asphyxia) should be avoided [1]. These procedures are likely to worsen the condition already present.

Conclusion

Penetrating cervical wounds are serious lesions that are often life-threatening. Their management is difficult in the absence of an adequate technical platform. The initial examination on admission, enabling appropriate decisions to be taken, is the key to this management. For an optimal result, the multidisciplinary nature of the management of these wounds is not negligible.

Conflicts of Interest

The authors have no financial, consultative, institutional, or other relationships that might lead to bias or conflict of interest.

Sources of Funding

The authors declare they have received no funding for the preparation of this document.

Ethical Approval

The study protocol fulfilled the requirements of the Hospital Ethics Committees and was approved.

Consent

Written informed consent was obtained from her son for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author's Contribution

The study design and data acquisition were done by ETB. BSUR and AG carried out the literature review. The manuscript was written by ETB, IM and KAP. All the authors participated in the revision of the manuscript.

Guarantor

ESSOBIYOU Tamassi Bertrand.

Provenance and Peer Review

Not commissioned, externally peer-reviewed.

References

1. Quinot J-F, Kaiser E. Emergency management of cervical penetrating injuries. *EMC-Medicine*. 2004; 1: 157-164.
2. Bege T, Berdah SV, Brunet C. Stab wounds and their management in the emergencies. *Medical Press*. 2013; 9: 2281-2288.
3. Cesareo E, Draoua S, Lefort H, Tazarourte K. Penetrating neck wounds. *Emergencies*. 2012; 49: 11.
4. Clement P, Barnabe D, Briche T, Kossowski M. Surgical treatment of blunt and penetrating injuries of the larynx and cervical trachea. *EMC-Otorhinolaryngology*. 2005; 2: 107-118.

5. Essobiyou TB, Sambiani DM, Amavi AK, Tchangai B. Haemorrhagic rupture of hepatocellular carcinoma: Management of a case in a resource-constrained hospital in TOGO. *Int J Surg Case Rep.* 2022; 95: 107199.
6. Demetriades D, Salim A, Brown C, Martin M, Rhee P. Neck injuries. *Curr Probl Surg.* 2007; 44: 13-85.