

CASE REPORT

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Scratched pustule or gunshot wound? A medical odyssey

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Abstract The diagnosis of a gunshot wound can be difficult especially if the morphology is not typical. In the case presented a neck injury was not recognised as a gunshot wound by several clinicians and radiologists although the bullet could be seen at the base of the patient's tongue and on all X-rays taken. This misinterpretation may have been caused by a "professional blinkers phenomenon".

Keywords Gunshot wound · X-ray investigation · Clinical diagnosis · Professional blinkers phenomenon

Case report**Story**

A woman planned to get rid of her 55-year-old husband. After paying three different alleged hit-men who pocketed the money but did not kill him, she contacted a female fortune-teller. According to the confessions of both women, voodoo by piercing a doll was first attempted followed by (unsuccessful) poisoning. In her final attempt she gave him excessive amounts of alcohol to drink until he passed out. Then the fortune-teller drove to the apartment by taxi, told the driver to walk a few minutes with her dog, went upstairs, and fired a shot from a Browning pistol into his posterior neck. The woman then ransacked the living room to fake an armed robbery but on return into the kitchen she was surprised to find him still alive and complaining of pains in the head and neck. He could not speak clearly and his dental bridgework was broken.

Clinical investigation

The man was taken to hospital, where a small wound less than 1 cm long was diagnosed in the posterior neck. The X-ray pictures (skull in two dimensions, Fig. 1a,b) apparently showed no "abnormalities", a "scratched pustule" was diagnosed and the man was sent home. Due to persistent pains and a stiff neck the man went to the family doctor who could not make a clear diagnosis. The man was admitted to another hospital 2 days later and CTs were taken (Fig. 1c).

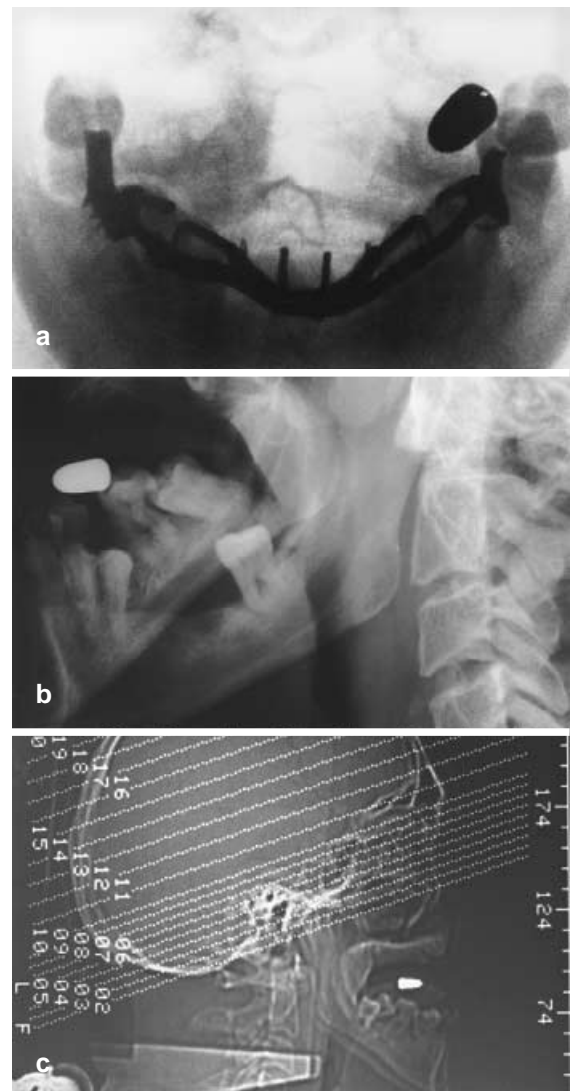


Fig. 1 **a** First X-ray investigation showing the typical formed bullet near the dental bridgework into projection to the mouth. **b** X-ray and **c** CT 2 days after the first medical examination; the projectile is visible in both pictures

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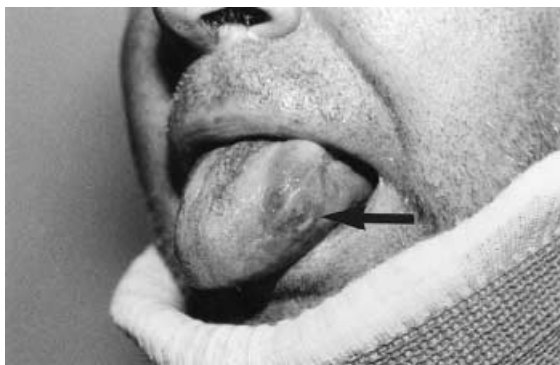


Fig. 2 The swollen tongue with bleeding near the left side and a central ulceration (arrow)

After consultation with a specialist in neuroradiology, a fracture of the second cervical vertebra including dislocated bone fragments of the lateral mass of the atlas was diagnosed and the neck was stabilised by a plaster collar. The fractures were attributed to blunt force injury.

Medico-legal investigation

Due to contradictory statements from the wife, a medico-legal expert was asked for advice 7 days after the incident. On inspection, the patient's tongue was swollen with an ulceration and bleeding and a projectile was visible at the base of the tongue (Fig. 2) as well as on all X-rays taken previously.

A 6.35 mm FMJ bullet was removed and the defect of the throat covered, while the spine injury was treated conservatively.

Discussion

It is well known that problems can arise in the description and interpretation of wounds, injuries and mechanisms leading to death [1, 2]. However, the failure to diagnose a gunshot wound is an extraordinary event [3, 4, 5]. In retrospect the bullet could clearly be seen inside the tongue on every single X-ray taken in this case (Fig. 1a–c) but was

not diagnosed until a forensic expert was consulted. The story became increasingly bizarre because the patient was hospitalised and complained about difficulties in speaking, blood in the mouth and broken bridgework. A simple look in the mouth would have been sufficient.

The radiographs were later shown to five experienced radiologists who were also informed about the punctuate injury of the neck. The fractures of the atlas and axis were diagnosed by all of them but only one recognised the bullet. This surprising result can only be interpreted as “professional blinkers phenomenon”.

Clinical medicine relies more and more on sophisticated diagnostic techniques, and procedures for quality control have also been established in radiology [6]. However, a detailed examination of basic facts such as the previous history, results of the clinical examination and simple X-rays, which was not adequately done in this case, would have given a correct diagnosis. There should be a high degree of suspicion if the clinical history does not match the findings.

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