

An Accident Due to an Unusual Mausetrap

Alışılmadık bir fare kapanı kazası

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SUMMARY

Gunshot injuries are important health problem in this era we live in. Accidental injuries in children and adolescents are often caused by home-made guns, particularly in populations where firearm possession and use is common. In this report, we present a case of a ten-year-old boy presented to the emergency room with a gunshot injury to his right hand caused by a home-made mousetrap.

Key words: Home-made gun; low velocity gun; unintended gunshot injuries.

ÖZET

Ateşli silah yaralanmaları günümüzde önemli bir problemdir. Özellikle, silah bulundurma ve kullanma alışkanlığı olan toplumlarda çocuklar ve adölesanlar arasında ev yapımı silahların neden olduğu yaralanmalar siktir. Biz bu olgu sunumunda, acil servise sağ elinde ev yapımı bir silahın neden olduğu yaralanma ile gelen on yaşında bir vakayı bildirdik.

Anahtar sözcükler: Ev yapımı silah; düşük hızlı silahlar; kazara olan ateşli silah yaralanmaları.

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Introduction

Over one million children under the age of 15 experience accidents in and around the home every year in the United Kingdom.^[1] Among these accidents, those due to hand-made guns hold an important place.^[2] The spectrum of these injuries ranges from local skin injury to severe upper anterior parts of the thorax, upper extremity especially the hand, neck, and the head. Also, these incidents can cause disabling and fatal injuries.^[3]

Hand injuries cause devastating problems throughout the world, both for patients and their families and in terms of countries' economic resources. Several studies have focused on the epidemiology of hand injuries, and on the wide variety of causes and injury patterns that are seen.^[4] We present a case of hand injury that was unusual with regard to injury pattern and mechanism.

Case Report

A 10-year-old boy was admitted to the hospital's emergency department three hours after he was injured his right hand with an unusual mousetrap. It was reported that the injury occurred by an accident while playing with a mouse trap left at the entrance to the mouse hole in the garden (Fig 1). On physical examination, there were gunpowder traits on the volar region of right hand, and on all fingers and the palm. There was an entrance hole with irregular margins of about two centimeters diameter and an exit hole with irregular margins of about three centimeters diameter on the dorsal side of the same hand. On the X-ray of the hand, the proximal two thirds of the third metacarpal bone and the third metacarpophalangeal joint were not observed; there

was also a fracture line with irregular margins at the epiphyseal part of the third distal phalanx (Fig 2a). Other system examinations were all normal.

The patient underwent surgery with general anesthesia. The injured hand was repaired with osteofasciocutaneous posterior flap. No complications were observed in the postoperative period. There were no problems in flap perfusion. A callus had formed on bone flap. Functional restoration of the hand will be achieved by two-staged tendon reconstruction via hunter prosthesis and tendon grafting (Fig 2b).

Discussion

Gunshot wounds were the eighth leading cause of unintentional injury deaths among persons in all age groups in the United States (US).^[5] For every unintentional gunshot fatality in the US, another 13 people are treated for non-fatal gunshot injuries in hospital emergency departments.^[6] Although there has been no comprehensive investigation on unintended gunshot injuries in Turkey, it is known that 3.8% of all causes of death in 1998 were due to accidents or violence. The number of accidents for which gunshot bullets were responsible was reported as 676 in 1998.^[7]

Accidental injuries were frequently seen in young people and children who like to play with guns. Children under age 15 suffered 823 nonfatal, unintentional firearm injuries serious enough to require an emergency department visit, a ratio of 14 nonfatal firearm injuries for every fatality.^[8] Due to the commonly seen habit of gun possession in the region we live, we predict unintentional gunshot injuries to be very frequent in children. Our case was also in the childhood and he was unintentionally shot by the home made



Fig. 1. The view of the mouse trap.

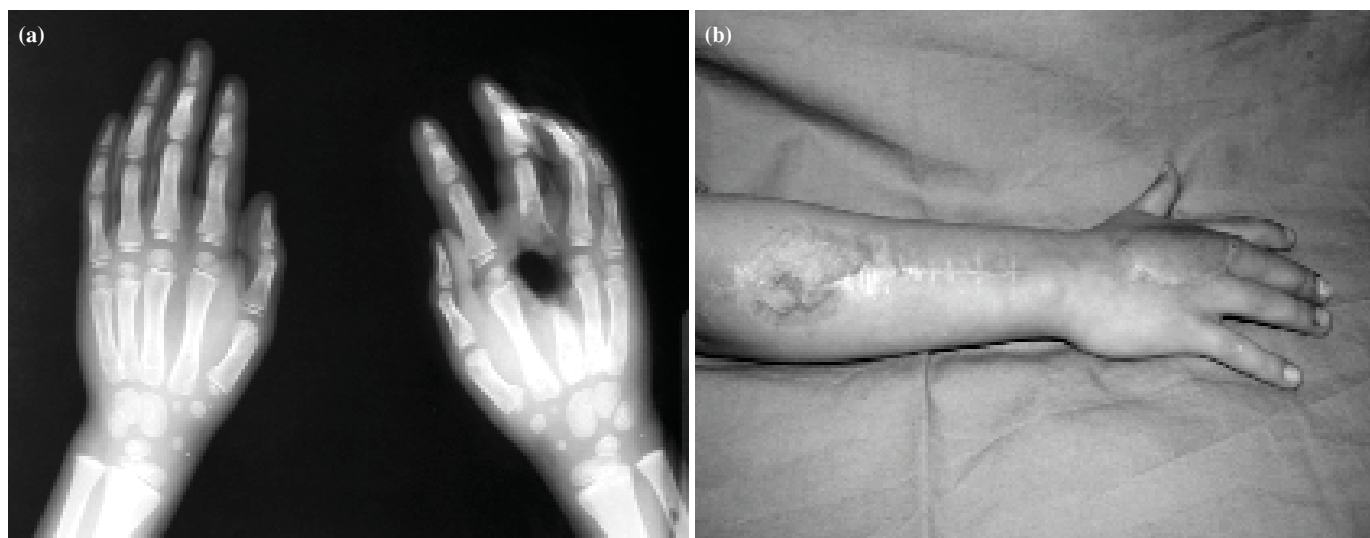


Fig. 2. (a) The anteroposterior X-Ray image of the patient's hand. (b) Postoperative view of the hand (3 months later).

gone used for catching mouse as a result of his curiosity.

A home-made gun is a crudely manufactured device with the basic attributes of a firearm. The barrel is usually fashioned from a piece of water pipe, a wooden or metal frame and various devices that have been modified to function as the trigger and firing pin. The potential lethality of these weapons varies; some being so rudimentary as to be of greater danger to the shooter than to the intended victim.^[9] Although it is illegal, home-made guns are often used for safety and as a hobby in Turkey especially in the eastern and northern regions and the frequency is not known.^[7,10] The mouse trap in our case is a home-made gunshot instrument that is placed at the entrance of mouse holes, in order to kill large field mice. The firing mechanism is triggered by the mouse exerting pressure on the trap entrance (Fig 1). The bullet calibration is 12 mm.

Home-made gun injuries generally happen due to adjacent or close range shots. The effected body parts are the upper anterior parts of the thorax, upper extremity, especially the hand, neck, and the head.^[3] The hand is the most frequently injured part of a child's body.^[4] Pediatric hand fractures usually heal with no long-term consequence, but in the short term, they cause significant morbidity and result in inability to participate fully in educational and recreational activities.^[4] In our case, simultaneous dorsal and volar surface defects of the hand (through and through hand defect) occurred as a result of an adjacent shot.

Home-made gun injuries, although uncommon today, represent a special form of missile injury with unique low

velocity terminal ballistics.^[9] In spite of the fact that most gunshot injuries in the civilian population are the result of low-velocity weapons, it is common to see complex below-the-elbow gunshot injuries. In our case, the injury caused by a low velocity bullet. However, as the injured body part is the hand and as the injury is a complex one, the physical and functional reconstruction was expensive and it took a long time to complete.

In conclusion, although home-made low velocity guns have been accepted as harmless tools, it should be considered that they may result in expensive and important injuries that are hard to manage, or even death. These potential dangers should be kept in mind, and both use and possession of homemade firearms should be tightly restricted. Furthermore, parents should be informed about the fact that the most frequent victims of unintentional gunshot injuries are children.

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