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SUICIDE USING A SIMPLE CRUDE HOMEMADE FIREARM (ZIP GUN) – A CASE REPORT

*SAMOUBISTVO IZVRŠENO KORIŠĆENJEM JEDNOSTAVNOG VATRENOG ORUŽJA IZRAĐENOG U
KUĆNIM USLOVIMA – PRIKAZ SLUČAJA*

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Summary

Introduction. For homemade firearm, as well as for blank pistol, tear gas gun or cap pistol, that are adapted to use as firearm, there is a commonly used term - zip gun. Presented zip gun is one of the simplest crude homemade firearms that was found among reviewed articles. **Case report.** We present a case where a young man committed suicide by using a very simple, crude zip gun. The iron tube was used as a barrel. At one end of the iron tube a hunting cartridge was inserted. That end of the tube was closed by iron cylinder with a screw breaching through the center. The decedent was holding the metal tube i.e. the barrel in left hand. He was holding a hammer with his right hand and trying to hit the head of the screw which was, in this case, used as a firing pin. **Conclusion.** Authors would like to emphasize the importance of thorough investigation and detailed documentation of the crime scene. Particular attention is needed in cases where unusual metal or other parts can be found at the scene from which a crude homemade gun can be made. We also emphasize that, because of the low power of these kind of firearms and possibility of surviving the shot, if the vital structures are not damaged, an urgent and adequate medical intervention could save the injured persons life.

Key words: Suicide; Firearms; Wounds; Gunshot; Forensic Ballistics; Forensic Pathology; Autopsy; Asphyxia; Hemorrhage

Introduction

For homemade firearm, as well as for blank pistol, tear gas gun or cap pistol that are adapted to use as firearm, there is a commonly used term - "zip gun" [1, 2]. Zip guns were most popular in 1950s and 1960s, predominantly in urban city areas, where they were used by young gang members in warfare. Most of the zip guns were very simple and crude in construction, made of block of wood, a car antenna was used as the barrel, a nail as the firing pin, and rubber bands were used to propel the pin [3]. Because of crude construction the quality of these weapons was low. They could fire projectiles at low velocity, had limited accuracy and

Sažetak

Uvod. Za jednostavno vatreno oružje izrađeno u kućnim uslovima, pištolj-plašljivac, gasni pištolj i pištolj na kapisle, koji su modifikovani tako da mogu da ispaljuju pravi projektil, postoji zajednički naziv zip-gun. Oružje opisano u ovom radu, predstavlja jedno od najjednostavnijih vatrene oružja, izrađenih u kućnim uslovima, koje se moglo pronaći među objavljenim stručnim, naučnim radovima. **Prikaz slučaja.** Prikazan je slučaj samoubistva mlade muške osobe, izvršenog pomoću vatrene oružja vrlo jednostavnog i prostog mehanizma i izrade. U ovom slučaju, gvozdена cev je korišćena kao cev oružja. U jedan kraj cevi ubačena je lovačka patrona, a kraj cevi je zatvoren poklopcem sa metalnom pločicom, kroz čiju sredinu je probijen šraf. Pokojni je držao cev u levoj ruci, a čekić u desnoj ruci, i pokušavao je čekićem da udari glavu šrafa, koji je u ovom slučaju imao ulogu udarne igle. **Zaključak.** Prikazom ovog slučaja autori bi želeli da naglase važnost detaljne istrage i dokumentovanja predmeta na samom licu mesta. Posebnu pažnju potrebno je obratiti u slučajevima u kojima se na licu mesta nalaze neobični delovi metala ili drugog materijala, a koji bi mogli biti upotrebljeni za izradu prostih tipova vatrene oružja. Takođe naglašavamo da, zbog niske snage ovih jednostavnih oružja, kao i realne mogućnosti preživljavanja nastale strelne rane, ukoliko vitalne strukture nisu oštećene, hitna i adekvatna medicinska intervencija može spasiti život povređenoj osobi.

Кljučне речи: samoubistvo; vatreno oružje; rane od oružja; forenzička balistika; forenzička patologija; autopsija; asfiksija; krvarenje

commonly misfired [4]. It was not uncommon that the firer of such weapon goes worse than the intended victim. Nowadays, zip guns are replaced with well manufactured, commercially made firearms that are relatively easily available. Crude homemade firearms are likely to be found in developing countries where either the commercial firearms are still too expensive for poor population, or getting licensed firearm is difficult because of very stringent licensing policy [5]. We present a case of suicide which was committed with a zip gun. Presented zip gun is one of the simplest crude homemade firearms that were found among reviewed articles of similar theme.



Figure 1. A 20–30 year old male found dead in an armchair, lots of small junk scattered around the room

Slika 1. Muškarac starosti 20–30 godina pronađen mrtav u fotelji, mnoštvo sitnog smeća razbacanog okolo po sobi

Case report

A 20–30 year old Caucasian male was found dead in his apartment, recumbent backwards in an armchair. His head was resting on his chest. The chest was covered with dry blood that originated from both, the nose and the mouth. There were two wounds seen on the upper lip. His left arm was above the right one, lying on his lower abdomen and there was soot found on the left hand. Fingers were bent as he was holding something in his hand just before death. The right arm was below the left one, with his hand resting on the right thigh. On the right hand no soot was found. The body was transported in order to perform an autopsy.

The investigation was thorough and every detail that could lead to solving this case was photographed and taken into account. The residence was untidy with lots of small junk scattered around the room where the deceased was found (**Figure 1**). Something brought to investigators' attention. There was an iron tube lying on the floor in front of the armchair (**Fig-**



Figure 2. Iron tube lying on the floor, approximately 22 cm long, about 3 cm in diameter, with hunting cartridge inserted

Slika 2. Gvozdена cev na podu, dužine oko 22 cm, prečnika oko 3 cm, sa ubačenom lovačkom patronom



Figure 3. Wooden hammer that has a thick metal plate with many small cone-shaped wedges

Slika 3. Drveni čekić sa metalnom pločom na kojoj se nalazi mnoštvo klinastih ispuččenja

Figure 2). The tube was approximately 22 cm long, about 3 cm in diameter, and was open at one end. At the other end there was hunting cartridge inserted. The cartridge was labeled *CHEDITE 12* and at least three scorings were found on the percussion cap, two of which were on the periphery. Close to the armchair a wooden hammer was found (**Figure 3**). On the striking part of the hammer there was a thick metal plate with many small cone-shaped wedges. On the table that was in front of the armchair, a small cylinder (4.5 x 4.5 cm) was found. At one end the cylinder was closed with a rectangular plate, which was welded for the cylinder edges and had somewhat greater dimensions than the cylinder. In the middle of the plate a screw was breaching through ending with a spike inside the cylinder (**Figure 4**).

During autopsy it was noted that the deceased was 183 cm in length, well nourished, with well-developed muscular build. There was a stellate-shaped gunshot wound across the lips, 3 cm in diameter with searing of the wound edges and soot present inside the mouth. Double fractures of the



Figure 4. Small cylinder closed with a rectangular plate, screw breaching through the plate and ending with a spike used as a firing pin

Slika 4. Poklopac sa metalnom pločicom, kroz koju je probijen šraf čiji vrh je služio kao udarna igla

maxilla and mandible were found as well as round-shaped defect of the tongue and hard palate. On the base of the tongue, two slightly deformed pellets were found. The wound course involved base of the skull with a narrow hole in the skull, about 2 x 0,3 cm in size, just on the right side of sella turcica. On the right side of the brain stem two slightly deformed pellets were found. In exception to small subarachnoid hemorrhage no damage to the brain was done. There was a lot of blood in the trachea and main bronchi as well as massive blood aspiration. Microscopic findings confirmed massive blood aspiration. Toxicology screening was negative.

After considering autopsy findings, police investigation and all surrounding circumstances the mechanism, cause and manner of death were determined. It was particularly interesting that there were not enough signs of brain damage to proclaim brain injury as a cause of death. So, the mechanism of death was mechanical asphyxia due to massive blood aspiration and the manner of death was determined as suicide.

Discussion

Popularity of crude homemade firearms past a few decades ago. Zip guns involved in death cases are rarely to be seen especially in developed countries. There were some cases of crude guns that were reported predominantly from developing countries and countries with low social standard, where commercially made guns are elusive for the majority of the population [5]. Definis Gojanović reported six cases of accidental death using handmade or improvised firearms [6]. It is even more interesting having in mind that there was a war in Croatia not so long ago where all kinds of firearms were easily available and accessible to the population. Cunliffe at al. reported a case of suicide using unusual homemade firearm [4]. In order to make such a firearm one must have some mechanical knowledge as well as access to necessary parts. This case also emphasizes the importance of thorough investigation of the death scene and interviews with witnesses. Homemade firearms are often so crudely constructed that they can be a greater danger to the firer than to the intended victim. Mobus and Eberhardt reported a case of fatal accident due to homemade pistol that was not safe for use [7]. The weapon had fired while reloading killing a person nearby. In accordance with the low power of some crude made zip guns, the

damage of vital organs can be avoided and an injured person can have good chance of surviving the shot. Similar case was reported by Alessi et al. [8]. There were some papers among reviewed articles which presented different kinds of zip guns but all of those firearms were somewhat complicated to produce in meaning that some mechanical knowledge and adequate materials were needed [9–11]. Hartwig at al. reported three cases of suicide where decedents were using a homemade firearm with rudimentary triggering mechanisms [12]. In order to fire the shot the percussion cap had to be hit with a hammer or a rock from behind. The last mentioned case report is in some way similar to our case, i.e. the triggering mechanism in both cases involves a hit with a hammer in order to detonate the cartridge percussion cap. Bulent Uner et al. presented an unusual firearm which is usually used against moles but in this case it was used for other purpose [13].

We present a case where a young man committed suicide by using a very simple, crude zip gun, whose parts were previously described. The iron tube was used as a barrel. At one end of the iron tube a hunting cartridge was inserted filled with lead pellets. After insertion that end of the tube was closed by a small iron cylinder with a spike from the inside that was used as a firing pin. The decedent was holding the metal tube i.e. the barrel, in left hand which was above the right hand and had soot on it. He was holding the hammer with his right hand and trying to hit the head of the screw which was in this case used as the firing pin. According to three scorings found on the percussion cap it is possible that the shot misfired for the first two times after being struck with the hammer.

Conclusion

By presenting this case authors would like to emphasize the importance of thorough investigation and detailed documentation of the crime scene. Particular attention is needed in cases where unusual metal or other parts can be found at the scene from which a crude homemade gun can be made. Relatively different gunshot wound can be present on the corpse in accordance with the type of firearm used. We also emphasize that, because of the low power of these kinds of firearms and the possibility of surviving the shot if the vital structures are not damaged, an urgent and adequate medical intervention could save the injured person's life.

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