

Murder of a Korean Police Officer with a Homemade Firearm

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Abstract : In the Republic of Korea, only permit holders are allowed to use firearms. We present a previously unreported case of a police officer who was killed by a homemade firearm. The criminal, an ex-convict who had committed serious crimes in the past, faced economic and social difficulties since his release from prison. Because the criminal felt anger and hatred towards the police officers who had investigated his past violent crimes, he made homemade firearms with the intention of killing the police officers. The victim was immediately dispatched to the scene, after receiving an emergency call. The police officer was shot in the left scapula, from a distance of approximately 5 m, with a matchlock gun that was fired by inserting stainless-steel balls and gunpowder into the barrels and igniting the wick. Multiple barrels were fastened to the wooden stock, which allowed multiple bullets to be fired simultaneously.

Keywords : Crime scene investigation, Forensic medicine, Homemade firearm, Korean judicial system, Murder

INTRODUCTION

The use of firearms is strictly prohibited, except for permit holders, under the Act on the Safety Management of Guns, Swords, and Explosives of the Republic of Korea [1]. The manufacture and possession of simulated firearms is

also prohibited. Gun-related incidents in Korea are not only caused by police officers and soldiers, who can legally possess a firearm, but also by civilians who possess a firearms license. In this study, we present a previously unreported case of a police officer who was killed by a homemade firearm. Because the criminal felt anger and hatred towards the police officers who had investigated his past violent crimes, he made 17 firearms with the intention of killing the police officers. Shots were fired when the criminal confronted the police officers at the crime scene. One of the police officers was fatally wounded by the criminal. We discuss this unusual case based on the judgment issued by the Korean judicial system after a thorough forensic investigation of the crime scene.

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CASE REPORT

1. Death scene investigation

The victim was a police officer who worked at a nearby police station. The police officer was dispatched to the scene, in October 2016, after receiving an emergency call that the criminal, who had seven previous convictions, was threatening innocent civilians with violence in downtown Seoul. The criminal was armed with 17 homemade firearms (Fig. 1), one homemade explosive device, and seven knives; he wore a helmet and body armor and was holding a shield. Once aware that police officers had been dispatched to the scene, the criminal moved to higher ground near a tunnel entrance. The criminal positioned himself in the grass of a flower bed on the side of the road. Shots were fired from a distance of approximately 5 m. The police officer was hit by a bullet (stainless-steel ball) and fell to the ground. The victim was taken to a nearby hospital, where he was pronounced dead.

2. Medicolegal death investigation

A forensic examination of the victim was conducted in the funeral home at the hospital where emergency treatment was given. Rigor mortis was observed in the temporomandibular joint. Livor mortis appeared as migratory dark red patches on the back. The upper and lower palpebral conjunctiva of both eyes were pale. There were no significant findings in the eyeballs.

A gunshot entrance wound (approximately 7 mm in diameter) without an exit wound was observed in the left scapula



Fig. 1. Homemade firearm. Matchlock guns with multiple barrels (25-cm steel tubes) fastened to a wooden stock, which allowed multiple bullets (stainless-steel balls [6.75 mm in diameter]) to be fired simultaneously.

ula (approximately 19.5 cm below the external occipital protuberance and approximately 15.0 cm to the left of the axilla) (Fig. 2). No other significant findings were noted. Careful examination revealed an abrasion ring (approximately 2-mm thick) around the entrance wound (Fig. 3). There was no burning, blackening, or tattooing (from gunshot residue) of the surrounding skin. The wound characteristics suggest that the shot was fired from a distance of approximately 5 m. Chest radiography showed that the bullet



Fig. 2. Single gunshot entrance wound in the left scapula (approximately 19.5 cm below the external occipital protuberance and approximately 15.0 cm to the left of the axilla). No other significant findings were noted.

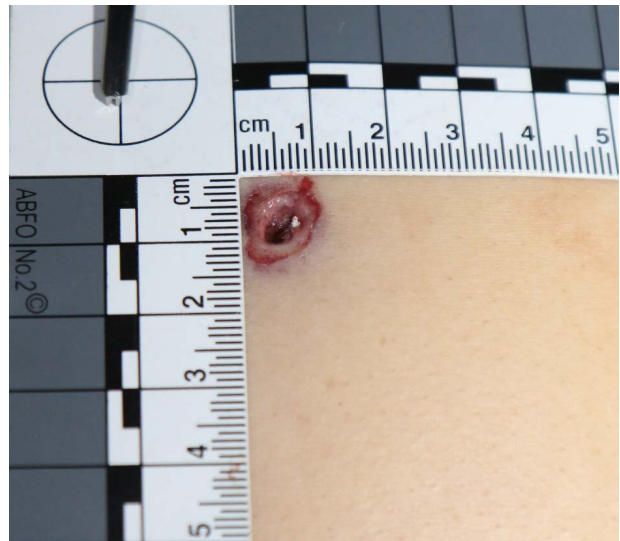


Fig. 3. Close-up of the gunshot entrance wound (approximately 7 mm in diameter) and surrounding abrasion ring (approximately 2-mm thick). There was no burning, blackening, or tattooing (from gunshot residue).

(a stainless-steel ball [approximately 7 mm in diameter]) had penetrated the left scapula and was lodged in the right lung (Fig. 4).

3. Forensic autopsy

The forensic autopsy was performed by the National Forensic Service the day after death. The following findings were recorded: (1) A bullet entrance wound in the left scapula; (2) A blind gunshot wound on the right side of the chest (no penetration or spall); and (3) A stainless-steel ball (approximately 7 mm in diameter) lodged in the right lung, as shown on chest radiography. There were no fractured ribs. The trajectory of the bullet penetrated both upper lobes and descending aorta. The cause of death was presumed to be thoracic organ injury caused by a blind gunshot wound.

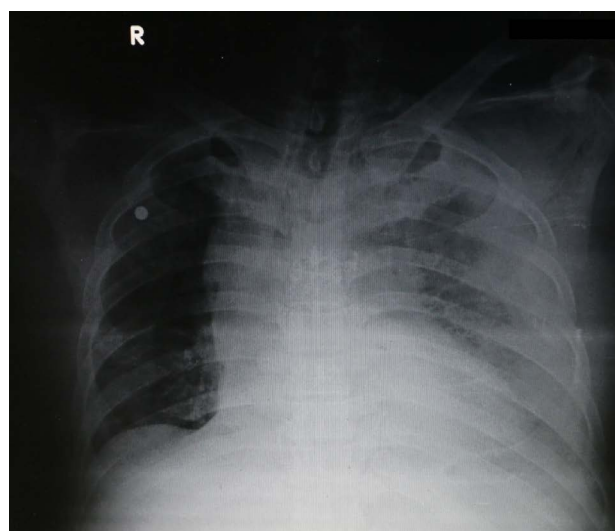


Fig. 4. Chest X-ray showing a stainless-steel ball (approximately 7 mm in diameter) that had penetrated the left scapula and was lodged in the right lung. There were no fractured ribs.

4. Criminal history and court records

He was tagged with an electronic ankle monitor for 3 years from April 14, 2014 to April 13, 2017. After his release, the criminal confined himself to his home. Without a stable job or income since May 2015, he faced severe economic and social difficulties. Because the criminal felt anger and hatred towards the police officers who had investigated his past violent crimes, he made homemade firearms with the intention of killing the police officers. After the incident in October 2016, the Supreme Court affirmed the decisions of the lower courts, and the criminal was sentenced to life imprisonment for murder in January 2019 [2].

DISCUSSION

According to the Korean National Police Agency, the total number of cases of unnatural deaths nationwide in 2019 was 24,204, of which 417 were homicides (Table 1). The total number of firearm deaths in Korea per year was as follows: Two in 2014, nine in 2015, three in 2016, three in 2017, four in 2018, and one in 2019. The number of deaths caused by homemade firearms other than shotguns and air guns was as follows: One in 2015, three in 2016, three in 2017, one in 2018, and one in 2019 (Table 2) [3].

There have been reports of deaths from various handmade firearms worldwide [4-11]. The homemade firearm used to kill the police officer in this case was a matchlock gun that was fired by inserting the bullets (stainless-steel balls [approximately 7 mm in diameter]) and gunpowder into the barrels (25-cm steel tubes) and igniting the wick. Multiple barrels were fastened to the wooden stock, which allowed multiple bullets to be fired simultaneously. The inner and outer diameters of the steel tubes were approximately 7 and

Table 1. Unnatural deaths in Korea from 2014 to 2019

Year	Total number of deaths	Suicides	Homicides	Negligent	Disaster	Other
2014	27,605	13,658	499	8,436	286	4,726
2015	24,746	13,436	512	8,737	148	1,913
2016	22,964	13,020	481	9,083	188	192
2017	22,282	12,426	418	8,749	203	486
2018	22,417	13,216	380	7,682	218	2,921
2019	24,204	13,367	417	6,856	163	3,401
Average	24,036	13,187	451	8,257	201	2,273

Table 2. Gun deaths in Korea from 2014 to 2019

Year	Total number of cases	Gun violence		Gun deaths by intent			Firearm	
		Death	Injury	Intentional	Unintentional	Shotgun	Air gun	Other*
2014	9	2	7	3	4	4	5	0
2015	10	9	8	5	5	8	1	1
2016	18	3	17	5	13	13	2	3
2017	15	3	5	9	6	7	5	3
2018	15	4	8	6	9	7	7	1
2019	16	1	12	2	14	13	2	1
Average	13.8	3.7	9.5	5	8.5	8.7	3.7	1.5

*Other firearms, including homemade guns.

9 mm, respectively.

In May 2016, the criminal purchased BB guns and four sashimi knives, which were customized to meet his needs. The gunpowder used to increase the killing power of the guns was replaced with firecrackers purchased at a toy store. Steel tubes (barrels) and ball bearings (bullets) were purchased from a hardware store. The stock was constructed of pieces of wood found at a construction site. The criminal learned how to make homemade firearms by searching the Internet and watching YouTube videos. He spent about 2 months researching the processes of detonating gunpowder and firing a gun before manufacturing illegal firearms and explosives at his home between August and September 2016. Ball bearings were inserted into the steel tubes and glued in place, with a glue gun, to prevent the pressure generated by the explosion of gunpowder from escaping through the rear of the tubes, which were sealed with pieces of wood. Three stainless-steel balls, each weighing 1.2 g, were used as bullets, which were wrapped in paper tape to prevent them from falling out of the barrels. In total, 17 homemade firearms were manufactured. At least 0.5 g of propellant gunpowder was used to generate a force greater than approximately 9.8 kg m/s^2 .

Korea and the United States differ significantly regarding police officers' use of firearms. In America, firearms are one of the most dangerous threats that law enforcement officers face. According to the National Institute of Justice, "the use of force by law enforcement officers becomes necessary and is permitted under specific circumstances, such as self-defense or in defense of another individual or group". In Korea, however, police officers are only able to passively

defend themselves, even when confronted with a serious threat [12]. If Korean police officers, who are exposed to dangerous environments to protect lives and property, could use force to apprehend criminals in possession of a dangerous weapon, then the death of the police officer in this case could have been prevented. The victim did not wear body armor because he was rushed to the scene after receiving the emergency call. In the Republic of Korea, the possession of firearms is strictly prohibited. Therefore, it is uncommon to assume that the criminal would carry a gun in order to kill a person or a group of people. If the police officer in this case had been wearing body armor, then his death from a gunshot wound to the left scapula could have been avoided. The Police Uniforms and Equipment Regulation Act should be amended to require police officers to wear body armor when attending an incident.

In conclusion, the use of firearms is strictly prohibited under the Act on the Safety Management of Guns, Swords, and Explosives of the Republic of Korea. However, firearm incidents still occur. The homemade firearm used by the criminal in this case was made of materials that are inexpensive and readily available, such as steel tubes, ball bearings, pieces of wood, and stainless-steel balls. Moreover, toy firecrackers can be easily used to replace gunpowder in homemade firearms and explosives. Therefore, the severity of the crime must be taken into consideration. In contrast to Korea, gun ownership is legal in countries such as the United States and Finland. Consequently, it is easy to research firearms on the Internet. Stricter legislation on the possession of firearms and explosives is needed to ensure public safety.

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