IMPROVISED COUNTRYMADE REVOLVER HAVING CAPACITY TO FIRE .38"AND .32" REVOLVER CARTRIDGES: AN UNUSUAL CASE

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ABSTRACT: In a suicide case, we received six chambered countrymade revolver, .32" revolver cartridge case and deformed lead bullet. To study the weapon condition whether or not it is of working condition and to compare cartridge case and bullet, we carried out test firing from said weapon. During analysis, it was observed that the said countrymade revolver had actual capacity to chamber .38" caliber revolver cartridges. Due to lack of .38" revolver cartridges, it was improvised in such a way that it can chamber and fire easily available .32" revolver cartridges. In this case, we carried out test firing of both .32" as well as .38" revolver cartridges through countrymade revolver successfully, followed by comparison of test fired cartridge and bullet with exhibit cartridge case and bullet respectively received in laboratory.

Keywords: Countrymade revolver, improvised, cartridge case, lead bullet and comparison.

Introduction

In recent years, public interest in forensic sciences has gained popularity in India as well as in the world. The firearm related cases such as murder, attempt to murder and suicide like cases have been considered as dangers to society. Scientist in firearm identification units are generally asked to compare the suspect firearm with discharged bullets or cartridge cases. In India, use of improvised weapons by criminals is common because of easy availability of raw material and low cost. The criminals used improvised or homemade or countrymade weapons mainly because it is very difficult to get licensed weapon.

According to National Crime Record Bureau (NCRB), 3722 number of victims are murdered by using firearms in India. Out of this, only 356 (9.6 %) numbers of victims are murdered by licensed firearms and remaining 3366 (90.5%) victims are murdered by using unlicensed or improvised firearms [1]. There are different types of countrymade weapons which get seized by local police forces. In this countrymade pistols, revolvers and handguns are common because ammunition used for these weapons are easily available in the market. For these weapons, generally 7.65 mm, .32" and 8 mm cartridges are used. These countrymade weapons are easily differentiated from genuine or standard weapons in terms of size, shape, colour, head stamp and finishing.

In this work, we carried out test firing by using both .32" as well as .38" revolver cartridges through countrymade revolver successfully. Followed by comparison of test fired cartridge and bullet with exhibit cartridge case and bullet respectively.

Case Report

A 25 years old man was found dead in his home suspected to have committed suicide using improvised six chambered countrymade revolver. The investigating police team deposited six chambered counrtymade revolver, .32" revolver (Exhibit 1) cartridge case (Exhibit 2) and lead bullet (Exhibit 3) in the connection of suicide case. To check whether countrymade revolver is in working condition or not, we carried out test firing through the said weapon in an indoor shooting range. The standard .32" and .38" revolvers were used for comparison of physical parameters manufactured by Indian Ordnance Factory, Kanpur India. The ammunition used for test firing was KF, manufactured by Ordnance Factory, Khadki, India. A canon EOS 550 D (Japan) digital camera and Leitz Wetzlar (Germany) comparison microscope were used for photographing the images and comparing the cartridge cases and bullets respectively.

Results and Discussion

Recently, Slobodan and Vladimir reported a 75 years old man who had committed suicide by using a homemade firearm [2]. A device that has revolving cylinder containing multiple chambers called revolver [3]. Revolver is one of the types of handgun with a slight difference of cartridge loading mechanism. Standard revolvers have cylinder with chambering capacity varying from five to seven. The countrymade or improvised revolvers have capacity to chamber four to eight cartridges depending upon manufacturer. The manufacturing parameters like construction and quality of countrymade weapons considerably vary [4].

The physical parameters of improvised revolver and standard revolvers are represented in Table 1. Data reveals internal diameter and thickness of five chambers of improvised countrymade revolver matching with standard .32" caliber revolver while internal diameter and thickness of one chamber fairly matching with standard .38" caliber revolver. Improvised revolver used for suicide is presented in Figure 1 and in inquest cylinder having capacity to chamber different types of cartridges.

Table 1: Physical parameters of standard revolvers and countrymade revolver.

Physical parameters	**Standard .32" Revolver (cm)**	**Standard .38" Revolver (cm)**	**Countrymade revolver (cm)**
Total length	22.6	31.5	21.8
Length of barrel	8.0	15.0	8.1
Diameter of muzzle end	0.82	1.15	0.92
Thickness of muzzle	0.25	0.25	0.25
Length of drum	3.6	4.2	3.4
Thickness of drum	0.25	0.15	0.3
Diameter of chamber	0.9	1.25	0.85 (five chambers) 1.03 (one chamber)

Figure 1: Improvised six chambered revolver.

The use of .32" revolver cartridges are frequently used by criminals due to easy availability of .32" cartridges and lack of .38" cartridges. In this case, deceased made his countrymade revolver in such a way that it can be capable of chamber and fire .32" revolver cartridges by using adhesive. When inserting .32" revolver cartridge in chamber, some part of cartridge was covered with adhesive and other part remained uncovered due to large diameter of chamber. After firing, it was observed that upper portion of cartridge case was bulged due to gases generated by propellant similar to the exhibit cartridge case recovered from suicide spot. Figure 2 represent bulged portion of fired .32" revolver cartridges (Right side-Exhibit cartridge case and left side-Test fired cartridge case).

Figure 2: .32" test fired cartridge and exhibit.

The matching of test fired cartridge case with exhibit cartridge case is shown in Figure 3 and matching of test fired bullet with exhibit bullet is shown in Figure 4. In Figures 3 and 4, the left side of dividing line showed test fired cartridge case and bullet fired from improvised countrymade revolver and right side of images shows exhibit cartridge case and exhibit bullet respectively. Figure 3 reveals that firing pin impression on both fired

cartridge case and exhibit cartridge case were perfectly matched.

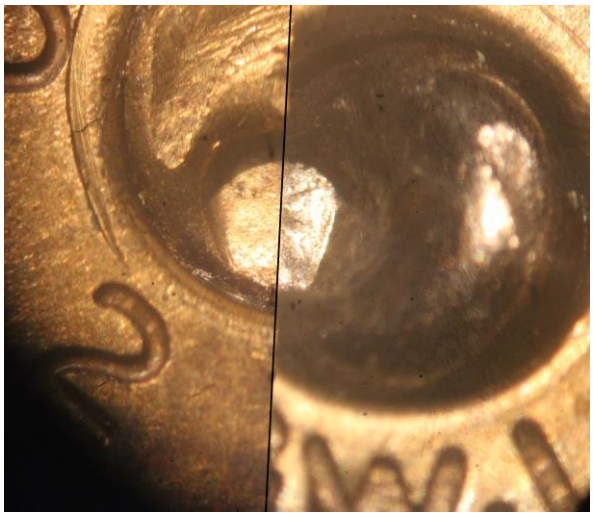

Figure 3: Firing pin impression match on cartridge case.

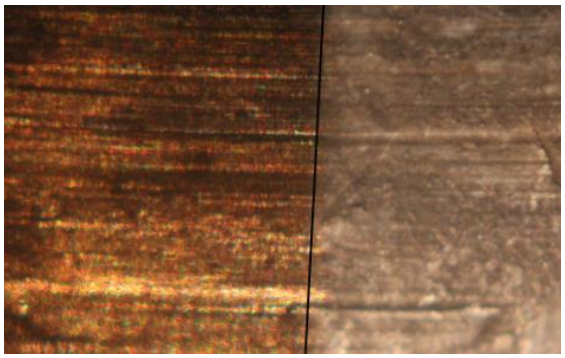

Figure 4: Matching of striation marks on bullets.

In case of countrymade firearms, every stroke of firing pin slightly varies in force and direction. Hence depth of firing pin on primer cap surfaces will never be constant. But firing pin of every weapon has its own micro-scopical individualities which can be usually seen by naked eye or by lens.

Similarly, no two barrels are identical. They are having individual and characteristic markings. The component of firearm undergoes various processes like hammering, cutting, grinding, filing and polishing etc. when firearm is manufactured. The individual characteristic like brushing marks on the test fired bullet is matched with exhibit bullet, as shown in Figure 4.

Conclusion

In this study test firing of .38" as well as .32" revolver cartridges were carried out through an improvised counrtymade revolver. Test fired cartridge and bullet were used to compare exhibit cartridge case and bullet respectively. The result shows that test fired cartridge and bullet perfectly match with exhibit cartridge case and bullet respectively. In conclusion, every firearm leaves its thumb marks on every fired cartridges and bullets. This thumb marks imprints on all cartridges and bullets fired from same weapon are always same. However those on cartridges and bullets fired from different firearms are always different.

Acknowledgement

Authors would like to thanks the director, Dr. K. V. Kulkarni, for all his guidance, support encouragement during the entire work.

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