REGULAR REVIEW

Improvised Weapons in Civil Disorder

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Wounds and injuries, riots, wounds - penetrating, fires, civil disorders (MeSH terms)

ABSTRACT

Military forces engaged in a peacekeeping role may face hostility from civilian populations, and standard training for first-aid and medical response in combat may be inadequate in dealing with such situations. This paper reviews some of the unorthodox and improvised weapons which may be encountered during the management of civil disorder.

Fig 1: November 1999: Villager facing eviction prepares petrol bombs at a barricade. Note police shields and Fire Services personnel (top left).

Introduction

The British Army has spent, at most, 15 years engaged in declared warfare during the 20th century. Compared to this, it has been engaged for many more years keeping the peace in various parts of Britain's former Empire, provinces and colonies, yet such work has never been its primary role. The Army has faced adversaries in undeclared guerilla warfare in the jungles of Malaya and Borneo, the mountains of Oman and the deserts of Arabia, often unable to tell friend from foe until fired upon. Naturally, it has been on the receiving end of all kinds of exotic weapons, and the purpose of this article is to review some of the commoner

improvised weapons, with particular reference to South-East Asian implements.

Peacekeeping and the management of civil disorder is not a natural function of a military force. Standard individual weapons are normally designed to kill, and there may be no access to instruments designed to control aggression. In addition, personal protective equipment such as body armour and helmets do not offer good protection against sharp weapons and petrol bombs. Special training is needed to give the troops confidence in their ability to control disorder with minimum force, as history is littered with atrocities caused when troops have panicked and lost control. Such events are always a disaster and almost guarantee loss of political sympathy and public support when reported freely (1).

The Hong Kong Police Force has extensive experience in riot control dating back to 1956, and even though the territory nowadays has one of the lowest crime rates among the major cities of the world, the Police still need to maintain their skills. In November 1999, villagers in the New Territories began a riot when Government officials tried to enforce an eviction order on them. The village (much of it illegally built) stood in a flood plane and was due for demolition in order to improve the river course (2). Villagers armed themselves with machetes, petrol bombs and sharpened metal poles, and placed LPG gas bottles on the rooves with the aim of lighting them and dropping them onto the Police.

The local commander recognised early that the Police Tactical Unit (PTU - the anti-riot squad) would be needed, and the PTU arrived with the means to mount a graded response. In addition to individual conical shields, the PTU carried long perspex shields, helmets and visors. Their weapons were graded from truncheons, pepper foam and tear gas cartridges and grenades, through wooden baton rounds and pump-action shotguns, to revolvers and M16 (AR15) rifles. All of these weapons were deployed in planned formation, and officers taking part in the response all knew their part. Villagers used all of their weaponry but at each stage were met by appropriate responses. Other rioters were incapacitated with pepper foam and CS gas, and the Fire Service kept the Police Officers who were facing petrol bombs wet with their hoses.

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Three officers had burning petrol spilled onto their legs, but avoided any serious injury. Figures 1-3 show officers facing a barricade where petrol bombs are being prepared for use.

Efficiently and firmly, the disorder was terminated, as it had been dozens of times previously in the Vietnamese refugee camps. The two largest camps (Whitehead and High Island) lay within the catchment area of our hospital until they closed in 1998, and our A & E staff became familiar with the types of wounds resulting from improvised weapons.

The refugee camps

Following the end of the Vietnam War in 1975, there was a mass exodus of refugees and economic migrants from Vietnam, mostly by sea (hence the common term "Boat People"). Many were genuine refugees fleeing from South Vietnam because they had supported the beaten regime and faced persecution, but in addition there were criminals from both North and South Vietnam who made the passage. Rapidly, most countries surrounding the South China Sea closed their gates to the refugees, except for Hong Kong. Finally, the flood became unmanageable and after 1982 Hong Kong

began to intern the arrivals in camps, pending determination of their status by the United Nations High Commission for Refugees (UNHCR). Although weapons were prohibited, refugees manufactured their own from metal, wood and plastic within the camp (fig. 4), mainly for self-defence against criminal elements or politically-opposite factions. North and South Vietnamese were not always adequately segregated, and in 1992, 24 inmates died of burns and 116 were injured following an arson attack by one faction against another at Shek Kong camp.

Weapon types

Improvised weapons are often constructed with immense skill and must be considered to be just as injurious and lethal as a professionally manufactured item. In the tribal territories of northern Pakistan, an entire town (Darra Adam Khel) is devoted to the manufacture of counterfeit firearms, accurate in every detail including proof-marks.

Chopping weapons

In China and South-East Asia, machetes (parangs) and kitchen choppers are ubiquitous and part of everyday life. In addition to their legitimate uses, they easily inflict life-threatening wounds (3). In our Accident and Emergency department, wounds caused by choppers involving both soft tissues (fig. 5) and bone are encountered. The weight of the rectangular chopper and the sharpness of the tip and heel portions are designed to make it capable of cutting bone (e.g. the ribs and skull of the pig), and open thoracic injuries in humans are occasionally seen. Severe blood loss is the usual immediate threat to life, and prehospital care providers have saved patients' lives by simply applying pressure to bleeding sites during transport.

Spears, swords and knives

A wide range of these weapons has been encountered by the Hong Kong Police and the Correctional Services Department. Standard multi-layer Kevlar body armour

Fig 2: Police lines showing long shields deployed defensively against thrown missiles and petrol bombs. Note the LPG cylinder (bottom left) and the range of weapons available to the police.

Fig 3: Rioter preparing to throw a petrol bomb at the advancing police. Note the barricade previously shown in Fig. 1 with police shields behind, and the water spray coordinated by the Fire Services personnel.

Fig 4: A range of improvised weapons captured in the Hong Kong Vietnamese Refugee Camps during the early 1990s.

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Fig 5. Chop wounds to right thigh.

may not protect the wearer against injury by sharp weapons, and the ceramic breast-plate will only protect a limited part of the chest. Shields are a much better protective mechanism when facing these weapons, and physical distance better still. There are a number of reports of spear injuries in the medical literature, mainly from Papua New Guinea (4-6).

Chemical weapons

Household and industrial chemicals have been used in crime for hundreds of years, the "acid attack" being well known and feared because of the risk of disfigurement. In recognition of the seriousness of criminals using noxious substances in the commission of a crime, such offences were prohibited in the United Kingdom under the 1968 Firearms Act, and punished with similar severity to the illegal use of a gun. Chemical assaults have been reported as a particular problem in Jamaica (7), and hydrofluoric acid has been used as a weapon against property (fur shop windows) in London (1). The effects of other common chemicals are reviewed in the medical literature (8-11). For most chemical incidents, irrigation with large amounts of water will form an important part of immediate medical care.

Improvised firearms

The recent troubles in East Timor and Aceh, Indonesia have illustrated the potential threat to peacekeepers of improvised firearms. Even in the United Kingdom, ammunition components and propellants are not subject to such strict controls as firearms themselves, and improvised weapons are easy to construct. However, the weapon may be as lethal to the user as to the intended victim, and Ordog *et al* have reported on the injuries caused by homemade guns (12). One apparently popular design in the U.S.A. involves using a barrel made from a Cadillac aerial, attached to a wooden stock with duct tape, and intended to fire 0.22" rimfire ammunition (struck with a hammer).

Wounds caused by home made guns in suicide cases have also been reported by Karger *et al* (1995) (13).

Petrol bombs

While standard military fabrics confer protection against many hazards, they offer relatively little protection against fire. In our laboratory, we have tested a wide range of fabrics using the international standard BS EN ISO 1640 techniques (14), including some military fabrics. The mean time to ignition for dry cotton uniform fabric is less than 5 seconds, and for some diffuse pattern camouflage fabrics (polyester-cotton mix) is less than 3 seconds. Most types of such fabrics burn actively once alight, and some glow and smoulder even after the fire is extinguished.

In civil disorder situations, unprepared troops may face the double hazard of an inflammable fuel, petrol, spilling onto clothing which offers poor fire retardancy. In unplanned emergency situations, it is advisable for troops to counter these risks by water-soaking their trousers and having the means available to smother fire (e.g. groundsheets).

Petrol bombs may contain additives designed to increase the rate of burning or to make the contents sticky (1).

Conclusion

In many nations, standard military training, uniform and weapons may not equip soldiers and their commanders to safely manage civil disorder, particularly in unfamiliar settings overseas. Medical, nursing and first-aid staff may be called upon to treat unusual injuries, and a knowledge of the range of improvised weapons which have been encountered in the past may be useful.

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