

TERRORISM & MEDICINE

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Terrorism in Pakistan has become a major and highly destructive phenomenon in recent years. According to the president, along with former President Pervez Musharraf, Pakistan army head that terrorist outfits were "deliberately created and nurtured" by past governments as a policy to achieve some short-term tactical objectives^{1,2}. The trend began with controversial Islamization policies of the 1980s, under which a "Jihad" or guerilla holy war was started against non-Muslim countries. Pakistan's involvement in the Soviet-Afghan War, which led to a greater influx of ideologically driven Afghan Arabs to the tribal areas and increased availability of guns such as the AK-47 and drugs from the Golden Crescent³. The state and its Inter-Services Intelligence, in alliance with the CIA, encouraged the "Mujahideen" to fight a proxy war against the Soviet Union. Most of the Mujahideen were never disarmed after the war and some of these groups were later activated at the behest of the state. The same groups are now taking on the state itself making the biggest threat to it and the citizens of Pakistan the politically motivated killing of civilians and police officials, by what Pakistan calls misguided holy warriors (Mujahideen) and the rest of the world calls terrorists.

From the summer of 2007 until late 2009, more than 5,500 people were killed in suicide and other attacks on civilians, for reasons attributed to a number of causes – sectarian violence between Sunni and Shia Muslims; easy availability of guns and explosives; the existence of a "Kalashnikov culture"; an influx of ideologically driven Afghan Arabs based in or near Pakistan, who originate from any country with a Muslim population and the subsequent war against the Afghan communists in the 1980s which blew back into Pakistan; the presence of Islamist insurgent groups and forces such as the Taliban⁴; Pakistan's thousands of fundamentalist *Madrasahs* (Islamic schools) which are thought by some to provide training for little other than jihad⁵. Terrorist would use any tactic to achieve their objectives, conventional weapons, nuclear dirty bombs, biological weapons & even cyber threats.

Among weapons of mass destruction, biological weapons are more destructive and cheaper to produce than chemical weapons and, in certain circumstances, may be as devastating as nuclear devices. Lethal amounts of biological agents are relatively easy to conceal, transport, and disseminate. A 1993 report by the United States congressional Office of Technology Assessment estimated that between 130,000 and 3,000,000 deaths could follow the aerosolized release of 100 kg of anthrax spores upwind of Washington, DC, matching the lethality of the hydrogen bomb⁶. The financial consequences of a biological attack are also extreme. An economic model developed by the Cen-

ters for Disease Control and Prevention (CDC) estimated a cost of \$26.2 billion per 100,000 persons exposed to aerosolized *Bacillus anthracis*. Thus, biologic agents have the potential to become the preferred weapon of both the independent and state-sponsored terrorist. In addition, threatened use of biological agents can be costly and challenging for society; and the number of threats in the United States investigated by the Federal Bureau of Investigation (FBI) has increased dramatically from 74 in 1997 to over 1000 in 2003. The United States experienced a bioterrorism attack using anthrax powder distributed via the postal system in the fall of 2001. As with emerging infectious diseases, early detection and control of biological attacks depend upon a strong and flexible public health system at the local, state, and federal levels as well as a well trained and vigilant front line of health professionals. Primary health-care providers throughout the United States will probably be the first to observe (and report) unusual illnesses or injuries in the event of a covert attack. Toward improving these capacities, the Department of Health and Human Services through the CDC has allocated \$1.9 billion dollars to the State Health Departments. Terrorist groups that do not appear to be associated with any state support have also employed biological agents and seem to pose an ongoing risk^{7,8}. In 1984, 751 people in The Dalles, Oregon, contracted salmonellosis after members of a religious cult spread the bacteria on restaurant salad bars in an attempt to disrupt elections. The Japanese doomsday cult, Aum Shinrykio, used Sarin nerve gas for its attack on the Tokyo subway, resulting in more than 6000 casualties and the deaths of 12 people^{9,10}. Although this event was well publicized, less well known is the extent of this group's biological weapons stores that included anthrax and hemorrhagic viruses. In fact, the group attempted to disperse aerosols of anthrax and botulism throughout Tokyo on at least eight occasions. No illnesses were associated with these attacks. Individuals have also been arrested in the United States for possession of vaccine strain anthrax, as well as botulinum and ricin toxins. A container of ricin was found accompanied by a threatening note in a South Carolina postal processing facility in October 2003; no cases of symptoms associated with ricin resulted. Three cases of anthrax were confirmed in South Florida in October 2001. Nineteen additional confirmed or suspected cases were reported by the CDC in Florida, the District of Columbia, New York City, New Jersey, Maryland, Pennsylvania, Virginia, and Connecticut. Eleven of these cases were inhalational and 11 cutaneous; all but two inhalational cases resulted from probable exposure to *B. anthracis* in powder that had been sent through the mail and most of the inhalational cases have occurred in postal employ-

ees. Environmental testing was conducted in a number of media companies and governmental buildings in Washington, DC. The CDC and the FBI are still actively investigating. The CDC issued interim treatment and prophylaxis recommendations and a consensus statement from the Working Group on Civilian Bio defense was published¹⁰. In Khyber Pakhtoon Khwa, which has seen an unprecedented increase in the number of terrorist attacks resulting in hundreds & thousand of casualties from using explosives, it is very likely that we may see another tactic of terrorist attack in the form of bioterrorism. In a country where already the resources are limited for health care facilities, this will be another burden of the outstretched beds of the hospitals. We should properly train our health care personnel for the new threat in the form of bioterrorism.

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