Physicians and Terrorism

By John Loofbourow, MD

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OUR WORLD IS, AND HAS ALWAYS BEEN, subject to large scale disasters, both from cataclysmic natural events like earthquakes or epidemics, and from accidental or purposeful human activities. There is no lack of evidence: Pompeii, the Plague and the Huns come readily to mind among a flood of other examples.

No doubt technological developments and ever more and larger cities increase the danger from such events. We live in a world where the majority is still abysmally poor, and the minority is, by comparison, filthy rich; but that is not new.

What is new is the number of people in the world who have access to information and technology. Of this number, the minority enjoys an unprecedented degree of freedom and range of life options, while the majority lives in economic and political serfdom. There may be no clear cause and effect between the misery of one group and the advantage of the other; yet in our e.world, information (read power) is far more widely accessible than ever before.

Is a world so dependent on technology as ours not subject to technologic crisis or disaster? Is not such a world subject to strife, and warfare? And is not terrorism merely another way to wage war, a way for a very few to affect the lives of many?

On Dec 5-7, 2000, at the request of the Editorial Committee, I attended a 3-day interactive video course entitled "Medical Response to Chemical Warfare and Terrorism." It offered 12 CME units, from the U.S. Army Medical Command. A similar course is also on the Internet at http://ccc.apgea.army.mil . The video presentation had to deal, necessarily, with complex material, generally only remotely familiar to most medical professionals: Pulmonary agents, vesicants, nerve agents and biological agents. They seem otherworldly.

And yet, there have been many industrial accidents or terrorist activities involving such agents in the very recent past. In such cases, local physicians become involved.

Example: In the 1995 Tokyo subway episode, terrorists (read dissidents) tried to use anthrax, but could not deliver it efficiently. In an underground lab, they produced sarin, a nerve gas of the anticholinesterase group, and delivered it by aerosol.

There were 5,510 injured, 20 percent of them hospitalized, and 12 deaths. Many victims at the hospital were not fully decontaminated so the medical attendants developed a very troublesome meiosis. Had a vesicant or mustard type-agent been used, the toxic effects on care givers could have been far more serious and extensive. Vesicants are most often used in the Middle East; earlier formulations were used in WWI, and some can be manufactured in a clandestine lab. Furthermore mustard-vesicant like materials are used industrially in the USA.

At Bhopal, India, in 1984 a Union Carbide methyl isocyanate plant exploded when water entered a storage tank. A 20-foot toxic cloud drifted at midnight over a sleeping population of one million. Hospitals, physicians and public health workers were overwhelmed. The incident was thought to have been caused by a disgruntled employee, although that is still unclear, and may have been simply an accident.

Methyl isocyanate is an extremely toxic material used to manufacture herbicides and pesticides. Acute exposure is well documented as primarily a pulmonary agent, but long term effects are simply not known.

There is evidence, mainly from Bhopal, that late effects may be significant, involving the lungs and reproductive system. Early reports indicated 3,800 deaths, 40 permanently disabled and 2,680 partially disabled surviors. Late evidence reveals that 50,000 to 100,000 survivors may have permanent long term effects; however the mix of toxic gasses in the Bhopal explosion are unclear, making conclusions prone to error.

In Sverdlovsk, Russia, in 1979, 66 people downwind of an accidental anthrax spore release from a biological warfare plant died with anthrax pneumonia. Pulmonary anthrax can be prevented or ameliorated through post-exposure immunization, provided vaccine is available. Smallpox, botulism toxin and anthrax appear to have been keystones in the Russian biowarfare arsenal, intensified after the international treaty which outlawed such activities among 147 nations - including the then USSR.

The video course was made by the Army, mainly with its own personnel. Instructors were not professional actors. Yet the presentation was very effective and well-organized. The material was delivered with good use of special effects and humor. Each 90-minute segment ended with a "Jeopardy" show in which an MD and a Biological Warfare expert competed for dollars. The questions and categories served as a review of subject matter. Of course the doc won, which seemed to me very nice. I am not capable of summarizing the course briefly here, even if I felt competent to do so. Even a dry - perhaps toxic - overview would require several articles.

Yet the material is important. It is never fun to think about the unthinkable. And a disaster is itself not fun either, just a terrible lot of work and ugliness and suffering for all involved, including the docs, rescuers and survivors.

It is reasonable to question whether one can actually accomplish much in a terrorist attack or a large scale disaster. And yet the same logic can be applied to ACLS training: does it accomplish very much in the long run? I believe it does, because a successful outcome requires a team effort. By the time team members have gone through three or four periodic ACLS courses they are better able to stay on the same page during the real thing.

The same can be said about preparation for disaster, with even greater reason, because hundreds, if not thousands, of people may be simultaneously involved. If we were serious about disasters, this course, or one like it, would periodically be required of everyone in the chain of emergency response: fire, ambulance, police and hospital. But that's not likely to happen until after a significant event.

It is curious that during our own SSVMS 2001 Annual Meeting at the Hyatt Hotel on the 16th of January, while the State Assembly was in emergency session across L Street, a truck was driven up the Capitol steps, crashing into the South entrance before exploding. Our legislators were fortunate to escape unharmed.

There is no cost for the 12 units of CME. A course outline and handbooks, as well as the complete "Textbook of Military Medicine: Aspects of Chemical and Biological Warfare" are available on line. The text is quite impressive, and easily accessed on line by pulling up the web page, and clicking on "reference materials." I did enjoy the course, although I hope, personally, to never find it of any use whatsoever, like the quadratic equation.

lufboro@jps.net

Sierra Sacramento Valley Medical Society
5380 Elvas Avenue #100 • Sacramento, CA 95819
916.452.2671 PH • 916.452.2690 FX • Email: info@ssvms.org