The Washington Post

Officials fear toxic ingredient in Botox could become terrorist tool

Washington Post Staff Writer *By Joby Warrick*Monday, January 25, 2010
In early 2006, a mysterious cosmetics trader named Rakhman began showing u p at salons in St. Petersburg, Russia, hawking a popular anti-aging drug at suspiciously low prices. He flashed a briefcase filled with vials and promised he could deliver more -- "as many as you want," he told buyers -- from a supplier somewhere in Chechnya.

Rakhman's "Botox" was found to be a potent clone of the real thing, but investigators soon turned to a far bigger worry: the prospect of an illegal factory in Chechnya churning out raw botulinum toxin, the key ingredient in the beauty drug and one of world's deadliest poisons. A speck of toxin smaller than a grain of sand can kill a 150-pound adult.

No Chechen factory has been found, but a search for the maker of the highly lethal toxin in Rakhman's vials continues across a widening swath of Eastern Europe, the Middle East and Asia. U.S. officials and security experts say they know the lab exists, and probably dozens of other such labs, judging from the surging black market for the drug.

Al-Qaeda is known to have sought botulinum toxin. The Lebanese Hezbollah movement, which the United States has designated a terrorist organization, and other groups have bought and sold counterfeit drugs to raise cash. Now, with the emergence of a global black market for fake Botox, terrorism experts see an opportunity for a deadly convergence.

"It is the only profit-making venture for terrorists that can also potentially yield a weapon of mass destruction," said Kenneth Coleman, a physician and biodefense expert.

Last year, Coleman and fellow researcher Raymond Zilinskas set out to test whether militant groups could easily exploit the counterfeit Botox network to obtain materials for a bioterrorism attack. In a project sponsored by the James Martin Center for Nonproliferation Studies, two scientists found that a biologist with a master's degree and



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\$2,000 worth of equipment could easily make a gram of pure toxin, an amount equal to the weight of a small paper clip but enough, in theory, to kill thousands of people.

Obtaining the most lethal strain of the bacterium might have posed a significant hurdle for would-be terrorists in the recent past. But today, the prospect of tapping into the multibillion-dollar market for anti-wrinkle drugs has spawned an underground network of suppliers and distributors who do most of their transactions online, the researchers found. Customers don't need prescriptions or identification, other than a shipping address.

"We assume that illicit producers are willing to sell their products to anyone with cash," Zilinskas said.

Lethal weapon

Botox -- the trade name for the most common commercial formulation of the drug botulinum toxin Type A -- is not a weapon. It has been used for decades to cure medical ailments including migraine headaches and facial tics, and more recently as a wildly popular treatment for the wrinkles of aging. Eight companies worldwide are licensed to make variations of the drug, and in the United States it is sold only by prescription, under the oversight of the Food and Drug Administration.

Each vial contains a minuscule amount of the actual toxin, a naturally occurring nerve agent secreted by a kind of bacterium called *Clostridium botulinum*. The amount of poison in a prescribed dose is so small that a determined terrorist would have to obtain hundreds of vials at \$400 each to kill even a single person, bioterrorism experts say.

Pure toxin is another matter. At full strength, it is the most toxic substance known to exist.

So lethal is the undiluted toxin that at least three countries -- the United States, the then-intact Soviet Union and Iraq -- explored its possible use as a possible biological or chemical weapon. All three gave up on the idea, partly because botulinum toxin degrades quickly when exposed to heat, making it poorly suited for delivery by missile or bomb.



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