Doctors reveal possible 'neuro-weapon' used in alleged attacks in Cuba

BY NORA GÁMEZ TORRES ngameztorres@elnuevoherald.com

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Three doctors who evaluated U.S. personnel affected by alleged attacks in Cuba believe that they were likely carried out with a weapon that uses directed energy and is capable of causing a "cavitation" effect.

"Neuro-weapons" can be biological, chemical, or in the case of the incidents in Havana, "directed energy weapons," Dr. James Giordano told National Defense magazine. He is a professor in the departments of neurology and biochemistry at Georgetown University Medical Center, and an expert in "neurotechnology" and its use in the military.

On Thursday, U.S. Department of State officials said at a congressional hearing that investigators still do not know how the attacks against U.S. personnel at the embassy in Havana were carried out or who the perpetrators are. The attacks began in late 2016, and the most recent was reported in May.

But three doctors that are part of a team put together by the State Department believe that those affected by the attacks may have been exposed to a directed energy weapon, which can cause injury by creating "cavitation," or air pockets, in fluids near the inner ear.

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The bubbles can travel quickly through two pathways that carry blood to the brain from the inner ear - the cochlear and the vestibular - and "function as a stroke," Giordano said.

So far, 26 Americans have been affected with symptoms ranging from hearing loss, balance and cognitive problems, to brain damage.

The team created by the government includes an expert in brain trauma and otolaryngology, Dr. Michael Hoffer of the University of Miami, and Dr. Carey Balaban, professor of otolaryngology, bioengineering and neurobiology at the University of Pittsburgh. Giordano, Hoffer and Balaban independently studied the first tests taken by those affected.

The victims traveled to Miami to be evaluated and Hoffer also traveled to Havana shortly after the first incidents were reported in late December 2016, all occurring in diplomatic residences and two hotels.

The U.S. personnel he examined said they were sitting in their homes, or at the hotel, when they suddenly felt the symptoms: a feeling of pressure, pain or ringing in the ears and dizziness after being exposed to a shrill noise. A day later, some reported cognitive deficits.

Hoffer said that some of those affected said they'd perceived that the energy "beam" followed them around their homes or at the hotel, and it only ceased when they opened the front door.

The team was unable to conclude exactly what method the perpetrators of the attacks used but reduced it to several possibilities:

- Ultrasonic (acoustic) exposures were considered "very possible and probable."
- Electromagnetic pulsing was also described as "very possible and probable."
- The team reported that the use of microwave energy was possible, but "unlikely."

The State Department stopped referring to the attacks as "sonic" because they ruled out that the sound was the cause of the symptoms. In an article recently published by The New York Times, experts pointed to microwaves as possible culprits of the attacks, describing a mechanism, still little understood, that makes human beings able to hear those waves in certain circumstances.

An article written by specialists from the University of Pennsylvania — who also examined affected U.S. personnel months after symptoms were reported, at the request of the government — also mentions that the victims reported feeling the sounds or vibrations as coming from a specific direction.

The article describes how some patients mysteriously exhibit brain damage without apparent cause.

But the case has been received with skepticism by the scientific community and the Cuban government has adamantly denied that there were attacks, suggesting that there is a "collective hysteria" among the employees of the embassy.

Doctors from the initial team created by the State Department also raised the possibility that the attackers used a combination of a drug that was activated with the directed energy weapon or that they used pulsed lasers.

"All these weapons can produce cavitation in fluids and can produce these effects," Balaban stated in the National Defense magazine.

But team members agreed that "saying [that the attacks in Cuba] are one thing or another is foolhardy."

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