Can a Single Injection Conquer PTSD? The Army Wants to Find Out; An anesthetic injection is thought to alleviate symptoms better than traditional treatments

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Full text: FORT BELVOIR, Va.--The U.S. Army has commissioned a study to determine whether an anesthetic injection to the neck alleviates symptoms of post-traumatic stress disorder--a treatment that, if proven effective, could be a big step toward easing an affliction affecting hundreds of thousands of troops who have returned from combat.

The $2 million Army study constitutes the first large-scale randomized control research into use of the shots--called stellate ganglion blocks--to treat PTSD. The injections have been used for decades for arm pain and shingles.

In recent years, some military doctors have begun treating PTSD patients, particularly Navy SEALs and Army Green Berets, with the injections. The shots interrupt messages along nerve fibers that control the fight-or-flight response.

That early clinical experience has produced promising results, with troops experiencing near-immediate relief of anxiety, hyper-vigilance, social withdrawal and other symptoms, said military doctors who have administered the treatment. They include Col. Jim Lynch, command surgeon at the joint Special Operations Command-Africa, which deploys elite troops to train local forces and conduct missions in Africa.

"Once people have the shot, they get dramatically better immediately," Dr. Lynch said. The shot isn't a cure, he said, but eases symptoms enough to allow talk therapy, pharmaceuticals and other approaches to achieve long-term improvements.

The treatment occupies an unusual medical netherworld. Most of the doctors who have administered it said they firmly believe it works. The wider military, hewing to standard medical practice, won't endorse the treatment without evidence from a controlled trial such as the one the Army has commissioned.

"It has yet to be proven that it really does work," said psychologist Ron Hoover, who oversees the new PTSD study on behalf of the Army. "The Army takes a fairly conservative position about treatments or any kind of medical care. They don't want to risk service members' lives or experiment on them."

Researchers are finding it difficult, though, to recruit volunteers for the study because likely candidates have already heard promising reports about the treatment from comrades, said co-principal investigator Kristine Rae Olmsted of RTI International, a nonprofit research organization hired by the Army to conduct the study.

Of the 240 patients that researchers hope to enroll, 80 would receive a harmless saline injection to distinguish the real shot's medical impact from any placebo effect. PTSD sufferers know they can get the genuine injection free from military hospitals without signing up for the study and risking getting a placebo, Ms. Olmsted said. "The problem," she said, "is word of mouth is very powerful."

Researchers began enrolling subjects last summer at military hospitals in Germany, Hawaii and North Carolina. RTI said only 45 had volunteered.

Between 11% and 20% of Iraq and Afghanistan veterans suffer from PTSD in a given year, according to the National Center for PTSD, an arm of the Department of Veterans Affairs. Commanders worry that PTSD reduces the combat effectiveness of those still in the military and can make life a misery for those who have left it. Sufferers are often irritable, edgy and quick to anger.

The most common psychological treatments, called exposure therapies--in which a PTSD sufferer repeatedly

revisits the traumatic event in order to weaken its effect--ease symptoms in about 60% of those with combat-related PTSD, according to an estimate by psychologist JoAnn Difede, director of the Program for Anxiety and Traumatic Stress Studies at Weill Cornell Medicine and New York-Presbyterian Hospital.

About the same percentage see at least some improvement from the most frequently used anti-PTSD drugs--selective serotonin reuptake inhibitors--but only 20% to 30% see complete remission from the drugs, according to 2014 research led by Dr. Difede.

Physicians such as Dr. Lynch who advocate use of the stellate ganglion block say it improves the effectiveness of traditional treatments.

The conundrum surrounding the new Army study highlights both the injection's promise and the frustration its advocates feel trying to win it wider acceptance beyond the special-operations troops who are already convinced.

"Honestly, I feel like I've let people down," said Army Dr. Sean Mulvaney, a former Navy SEAL who practices at Fort Belvoir, Va., and said he had administered more than 600 stellate ganglion injections to PTSD patients. Among most military doctors, he said, "it's not getting traction."

The Department of Veterans Affairs said it has no specific policy regarding use of stellate ganglion blocks to treat PTSD among those who have left the military. Doctors use the injections for PTSD on a "limited" basis at their discretion, a VA spokesman said. The department is conducting a small research project on the injections at its medical center in Long Beach, Calif.

The prospects of generating scientific consensus are clouded by the nature of the population suffering from PTSD. Doctors say some veterans are problematic trial subjects because they have an incentive to stay sick--the VA pays benefits to those suffering from combat-induced PTSD. The elite commandos who have already become fans of the injections have the opposite incentive--active-duty SEALs and Green Berets usually want to show improvement so they can stay with their teams, doctors say.

In the stellate ganglion procedure, doctors inject the anesthetic ropivacaine in the right side of the neck, using ultrasound to guide the needle to the area around the target nerves. The right side of the brain controls the fight-or-flight reaction. Doctors surmise that in patients with PTSD, messages between the brain and body get stuck in a loop. The anesthetic resets the system.

The drug is marketed under the brand name Naropin by Germany's Fresenius Kabi AG and, according to RTI, costs less than $2 a dose. Most patients require just one injection, although some return for a second shot, doctors say.

One of the patients is Dr. Lynch's commander, Brig. Gen. Donald Bolduc, a Green Beret who has served more than five years in Afghanistan. He was injured by an errant 2,000-lb. American bomb in 2001 and again in a 2005 helicopter crash.

Gen. Bolduc said he came home with symptoms from headaches and memory loss to excessive alertness and flashes of anger. He was diagnosed with PTSD in 2014 and received his first of two stellate ganglion blocks. His wife, he said, noticed the change in his demeanor on the drive home.

The shot "gives you the break to deal with things," he said. "I was able to put myself on the road to recovery." He said he is also on medication for anxiety and depression as part of a broad treatment plan for his PTSD and injuries. The injection, he said, "doesn't stop you from operating effectively in a combat environment."

In a 2014 study led by Drs. Lynch and Mulvaney, researchers injected a local anesthetic into the necks of 166 service members suffering from PTSD. They concluded the injection is a "safe and minimally invasive procedure that may provide at least 3 months of relief from symptoms associated with combat-related PTSD." That study didn't feature a control group. One small controlled study published in 2015 found no statistically significant difference between effects from one stellate ganglion block and the placebo. Patients showed improvement after a second injection.

"The most obvious explanation would be that the previously reported benefits for PTSD were attributable to

placebo effect," psychiatrist Robert McLay, then the research director at Naval Medical Center San Diego, said at the time. He said this year he believes the treatment is worthy of further study.
The Army study is intended to settle the debate.
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