

Minnesota Now (MPR) | Minnesota Now What are Stellate Ganglion Blocks? A look inside the treatment that has helped long COVID-19 patients 01GY88V66DP3CESHD1JKCDWWTV

CATHY WURZER: The US national emergency to respond to the COVID-19 pandemic ended a week ago today, as President Biden signed a bipartisan congressional resolution to bring it to a close after three years. COVID, though, as you know, is still lurking, still making people, sick and still killing many others.

After three years, there are a lot of people still experiencing symptoms from an early infection. There's still so much we don't know about what is causing long COVID and how to treat it. Remember hearing how many people lost their sense of taste and smell at the beginning of the pandemic. There are those who still have not recovered those vital senses.

In a moment, we'll hear from a doctor who specializes in nose and sinus conditions. But first, a growing number of providers around the country are using injections from the world of pain treatment to help long COVID patients regain taste and smell.

Andy Johnson is in that group. Andy is a certified registered nurse anesthetist at the Olivia Hospital, and has given what are called stellate ganglion blocks to about two dozen long COVID patients. And Andy Johnson is on the line.

Hey, welcome to the program.

ANDY JOHNSON: Hey, thanks for having me.

CATHY WURZER: Did I get that right, stellate ganglion blocks?

ANDY JOHNSON: Yeah, that's correct.

CATHY WURZER: OK.

ANDY JOHNSON: Yeah, they've been around for probably 100 years or so. They have been used for many different pain conditions. And we've found recently that they have been working really well to help reverse the effects of long COVID disorders.

CATHY WURZER: Well, that may come as a surprise to folks. I know a nurse anesthetist in Texas has been all over social media promoting the treatment. And others, like you, have tried it. When were you tipped off to this as a potential treatment?

ANDY JOHNSON: Right. That CRNA in Texas, I spoke with him-- David Gaskin. And he had done a couple of thousand of these. And initially, it was a CRNA colleague that had loss of taste and smell. And he had read a case study from an anesthesiologist in Alaska that said he had done this on a patient. Returned taste and smell. He tried it on his colleague. Had complete return of taste and smell within five minutes. And he's a couple of thousand patients later now.

CATHY WURZER: Wow. So why do you think a ganglion block works so well?

ANDY JOHNSON: Yeah, that's a great question. And it makes perfect sense when you start thinking about the pathophysiology. So the stellate ganglia provides most of the sympathetic signals to your head, neck, arms, upper chest. And I say sympathetic signals. It's really what controls your adrenaline, your fight or flight response.

And so when our system gets attacked by a noxious stimulation-- and it might be a virus, bacteria, trauma, toxin, anything like that-- it involves the immune system and the autonomic nervous system. And of particular interest is the sympathetic nervous system and the autonomic nervous system. And we seem to develop what's called a positive feedback loop. So we've seen it so much with COVID because so many people were affected.

And you get the immune response. And you get the sympathetic nervous system, which dilates blood vessels. It alters the endocrine system. But you end up developing what's called a positive feedback loop. And even when the virus or bacteria or noxious stimulation goes away, that loop persists.

And so what we do with the stellate ganglia block is just put a little numbing medicine on the ganglia. And it's just like rebooting your computer. It numbs it for a short period of time. And when it fires up again, that feedback loop is gone.

So the response is typically immediate-- within the first 5-10 minutes-- where you get a return of senses.

CATHY WURZER: So how do you test this out, by the way, in terms of whether the sense of smell and taste come back?

ANDY JOHNSON: Yeah, great question. And it's actually so fun, and I wish everyone could experience this. So I've had patients for a year or two years that haven't been able to smell or taste coffee, something that they've just loved to have in the past. And a lot of times maybe it's a change in taste, not so much loss of taste. So it's repulsive to them.

So we'll have them taste or smell whatever that is-- coffee for example-- before I do the procedure. And then do the procedure. Then, immediately after, I have them try it again. And it's that fast. And usually there's tears involved.

CATHY WURZER: I can imagine. I can imagine, after all this time. As you know, there are some doctors and some researchers who say that these long COVID symptoms are caused by cell damage. Which, in that case, these injections really shouldn't work. So are some people seeing a placebo effect? Or how would you explain this, I guess?

ANDY JOHNSON: Right, that's what we thought. We figured these were going to be irreversible because of damage to the nerves themselves. But just from personal experience here with patients, it's the real deal. I had a patient that was one of the first in the community to acquire this, and almost had Parkinson's syndromes-- really couldn't walk, significant brain fog, couldn't do simple math in their head.

And I blocked the right side, and really no response. So you block it from the right and the left. But you can't do them both at the same time because you also get a paralysis of part of your diaphragm. So if you would block both sides, you wouldn't be able to breathe temporarily.

So I block one side. Not really much response. And block the second side. And all of a sudden, the legs and arm movements were all coordinated. The brain fog was lifted. And it was just-- witnessed a miracle. And they had spent over \$100,000 of medical bills on rehab and everything, and nothing had really worked.

So I think in that instance it's pretty easy to say it wasn't placebo because we did the one side and no response. And then we blocked the other part of the stellate. That's when we saw it all.

CATHY WURZER: All right. Well, Andy, I need to let you go. I'm going to talk to a physician here shortly. Thank you for your time.

ANDY JOHNSON: Absolutely. Thank you.

CATHY WURZER: Andy Johnson is a nurse anesthetist at the Olivia Hospital and Clinic.

Now, on the other line is Dr. Matthew Tyler. He's an assistant professor at the U of M's Medical School, who specializes in nose and sinus issues, including the loss of smell. Dr. Tyler, welcome.

MATTHEW TYLER: Thank you for having me.

CATHY WURZER: We should say there's not been a whole lot of research on stellate ganglion blocks for long COVID so far, right?

MATTHEW TYLER: That's true. There is not a lot of available evidence to support the use of stellate ganglia blockade for long COVID or loss of smell and taste. And the available studies are small case series, which are just clinical anecdotes.

That being said, some of the responses that people are seeing, I think, are certainly promising. But not a lot of data thus far.

CATHY WURZER: What did you make of what the nurse anesthetist just got done telling us?

MATTHEW TYLER: Well, like I said, I think it's pretty remarkable some of the responses they're seeing. But from a physician standpoint-- I mean, from a clinical standpoint, I think before we start to advocate for any sort of treatment, we have to see some sort of data to support the efficacy of different interventions.

I think it's very difficult from both sides because these are desperate patients. And a lot of times, as physicians, we're desperate to provide a solution as well. But from certain standpoints, we'd just like to see the data. And thus far, there are no randomized clinical trials, which is really the gold standard for testing the intervention to demonstrate the efficacy of stellate ganglia blockade for long COVID or for loss of smell and taste thus far.

CATHY WURZER: What do we know about how COVID causes lasting smell and taste loss?

MATTHEW TYLER: So we know that COVID affects the olfactory system in the nose by infecting the cells that support the neurons that detect smell in the nose. So there's theories out there that certain patients lack the regenerative capacity to regenerate their sense of smell and taste after a COVID infection.

That's why I think the vast majority of patients-- over 90% of patients-- get their smell and taste back because they have that regenerative capacity. But there are a certain groups of patients who are very unfortunate and they don't have that capacity or generate those cells. Whether it be they don't have enough of them or they just lack the capacity to regenerate them we don't know. But we know for certain that COVID does directly infect those cells that support the neurons.

CATHY As a physician, how interested will you be to see the research? What will you be looking for?

WURZER:

MATTHEW Well, what I'd like to see is a randomized controlled clinical trial. And we alluded to earlier the placebo effect. And
TYLER: really, when you have two arms in a study, you really need to do a good job about ruling out a placebo effect. So you'd like the study to be randomized, but you'd like to see a sham injection done as well.

So one group or one arm of the study will have patients being injected with a drug. For example, bupivacaine or lidocaine, which are local anesthetics. But then the second group of patients will also receive an injection with a sham drug. So they'll still be getting the injection, but not with the drug.

So that's what you really have to do in order to rule out some sort of placebo effect.

CATHY What do you want to leave with individuals who might be listening, thinking, oh, my gosh, this sounds like a
WURZER: miracle cure? What advice do you have for them?

MATTHEW Well, again, like I said, I think patients who suffer from persistent olfactory dysfunction after COVID, it's
TYLER: devastating. And it's hard for clinicians as well. So I think that if patients are aware of it, they have to be informed about the lack of evidence for its efficacy.

And as the nurse anesthetist alluded to earlier, it's a very safe procedure that can be done. But the studies demonstrating efficacy, the patient should know that there's not a lot of data to back it up. But it could be considered an option for those of the patients who are desperate or want a solution.

But, again, there aren't clinical studies or randomized clinical trials that support it. And so that means that the FDA has not given its support in this indication or for this treatment. And then the consequence of that is that the insurance companies are unlikely to pay for it as well. So it's going to be a cash payment for a lot of patients.