

SPEAKER: I'm Dr. Michael [INAUDIBLE]. I'm the neurologist in the headache section in the department of neurology at the Mayo Clinic. I'm talking today about a case report that our group is presenting at the American Academy of Neurology meeting this year. Very interesting case of a woman who we saw after having had about 25 years of really intractable headaches. She, in her mid 20s, developed, really without any kind of antecedent causative event, very, very severe positional headaches that would appear when she stood upright and would improve when she became recumbent.

Over the years, these worsened and, in fact, the headaches became almost constant. She had several investigations. And the investigations indicated that it was based on the low CSF pressure state. And that can occur in several settings. Most often, it occurs after someone has had a lumbar puncture and is caused by a small leak from the hole induced by the lumbar puncture. But at other times, it occurs spontaneously, probably most often when there is a tear in the dura.

What happens is the spinal fluid leaks out and decreases the buoyancy of the brain. The brain basically floats in spinal fluid, and it keeps gravity from acting on the brain, pulling it down and putting traction on pain sensitive structures, pain sensitive dural structures. This is a fairly common problem. And when it's not remediable to treatments, either with blood patches or surgical treatments, can be quite disabling, because there aren't very good medical therapies in general.

Unfortunately for her, over the years, treatments had been largely ineffective. The sort of customary treatment for this, a blood patch, where we put a little bit of a person's own blood in the space, the CSF space, causing a renormalization of the pressure, would work for her for a very brief period of time, and then she would be back to where she was before.

And so in sort of a desperation act, we recommended treatment with botulinum toxin A for these headaches. We had been using Botox for several years for treatment of migraine, and had been successful in many, many patients. So because we really didn't have very much else to offer her, we gave her the Botox. And to everybody's surprise, she made a remarkable improvement. The overall intensity of her headaches decreased from a severe level, about eight out of 10, down to about three out of 10. And although not perfect, it allowed her to resume a much more normal life.

So by the time we wrote this paper, she had been receiving repeated botulinum toxin injections over a period of about three years, and so the results were quite consistent. After the treatment, she would receive an improvement that would persist for about three months, and then gradually, as the effects of the Botox decreased, the pain would return.

Well, we think that this is important, because it gives us a little bit of insight into the way the Botox might be working in our headache patients in general. It implies that it's a nonspecific mechanism, rather than having a specific effect on migraine, per se. And it also gives us a little hope that, for this small group of patients who have headaches based on low CSF pressure, that there may be another viable treatment option for them, patients who, in many cases, for which there are no other treatments.