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The Positive Impact of Electroconvulsive Therapy for Severe Psychiatric Illness

ReachMD Announcer:

Welcome to ReachMD. This is a medical industry feature titled "The Positive Impact of Electroconvulsive Therapy for Severe Psychiatric Illness," featuring Dr. Leonardo Lopez, psychiatrist at NewYork-Presbyterian and vice chair for inpatient services in the Department of Psychiatry at Weill Cornell Medicine. This audio is a production of NewYork-Presbyterian with world-class doctors from Columbia & Weill Cornell Medicine.

Dr. Lopez:

I think mostly what I would like to see is more access. I think I would like to see doctors thinking about ECT rather than a treatment of last resort, as a treatment that they don't want to withhold.

Erin Welsh:

Dr. Leonardo Lopez is a psychiatrist at NewYork-Presbyterian and vice chair for inpatient services in the Department of Psychiatry at Weill Cornell Medicine. He says it's the ability to make a huge and immediate difference in patients' lives that drew him to the field, and particularly his dedication to advancing ECT, or electroconvulsive therapy.

Dr. Lopez:

The degree to which we were able to get people better, the degree to which we were able to get people better quickly, it's really, really powerful to witness.

Erin Welsh:

Dr. Lopez takes on some of the most dangerous and difficult to treat conditions in the field of psychiatry, conditions like depression and also catatonia.

Dr. Lopez:

Catatonia is a syndrome that leaves patients in a great difficulty moving or speaking independently, so sometimes they will not move at all, or they will be completely mute, or the only movements they have will be imitations of the person they see in front of them. This is a very dangerous condition.

Erin Welsh:

For patients suffering a potentially fatal syndrome like catatonia, ineffective treatments are simply not an option, which is why, for these cases, Dr. Lopez turns to ECT, a medical procedure in which small electric currents are passed through the brain, intentionally triggering a brief, controlled seizure.

Dr. Lopez:

In ECT, or electroconvulsive therapy, we apply a very small electrical stimulus to the brain of a patient who is under anesthesia in order to provoke a generalized tonic-clonic seizure that lasts somewhere in the vicinity of 30 to 60 seconds and that terminates on its own. The whole procedure itself takes 3 to 5 minutes.

Erin Welsh:

In treating catatonia, the results with ECT are remarkable.

Dr. Lopez:

Response rates for catatonia in ECT are in the vicinity of 90 to 95%. We also use it for treatment-resistant schizophrenia, for treatment-

resistant mania and bipolar disorder. NYP has a really deep and abiding commitment to behavioral health and to the treatment of mental illness. That is because the organization culturally believes that this is important and is dedicated to it. And I think more than anything, that's been what's essential.

Erin Welsh:

I'm Erin Welsh, and this is Advances in Care.

Today, we hear from Dr. Leonardo Lopez on his work using electroconvulsive therapy to drive meaningful recovery and reduce the historical stigma around this life-changing treatment.

Erin Welsh:

Dr. Lopez, thank you so much for joining me today. It's really great to have you here.

Dr. Lopez:

Very happy to be here.

Erin Welsh:

I'm really looking forward to discussing ECT with you, both in terms of its history and its many applications today, because I understand it's really effective in treating a variety of psychiatric conditions. So would you mind taking me through some of these conditions and when ECT is most effective?

Dr. Lopez:

The most common utilization in the United States for ECT is major depressive disorder, depression, and that's true here at NYP and Weill Cornell too. About 55% of the patients we treat have major depressive disorder. Conservatively, patients with treatment resistant depression, somewhere in the vicinity of 70% of them will improve substantially with ECT. So that's a huge number when you take into account that these are patients who have tried many treatments before and have failed.

If the depression is more severe or if they have what we call psychotic depression, ECT is even more effective, and this is something we generally see with ECT, that the more ill the person is, the more effective the treatment is. Patients with psychotic depression have remission rates in the vicinity of 90 to 95% with ECT. So it is the most effective treatment that we have in psychiatry. It's one of the most effective treatments that we have in all of medicine.

Erin Welsh:

Is it typically reserved for, "Okay, we've tried these other things and we've got nothing left, let's try this"?

Dr. Lopez:

No, actually, there are certain situations where actually you're really ill-advised to wait for the last resort time to arrive. If we have a patient who's sort of moderately depressed and they've failed numerous antidepressants and other treatments, we might say, "Okay, let's keep trying other treatments, and then if they fail, we'll try ECT."

On the other hand, if that patient is very severely depressed, they're suicidal, they're in the hospital, they've lost 40 pounds in the last 3 months, those are patients that we might say we're gonna do ECT right away because we simply can't afford to introduce a treatment for this patient that might not be effective. We may not even trial other medications, or we may trial them only for a very short period of time before we say this patient has ECT.

And of course, if the patient has the most severe form of catatonia where they require ICU management or something of that nature, we'll do ECT immediately.

Erin Welsh:

So timeline and illness severity really determine when ECT can be most effective. And one case that I think really highlights just how transformative ECT can be is the case study that you and your colleagues published about in Pediatrics recently. Can you take me through this case, you know, starting with some background on the patient and what brought her to the hospital in the first place?

Dr. Lopez:

This patient was a 5 year-old child. She was brought to the hospital when she had seizures. She was diagnosed with epilepsy. She was given antiepileptic drugs, and she was discharged home. Several days after that, she began behaving oddly, which is to say she was no longer speaking, she was moving in a strange fashion and wasn't really interacting with her environment or communicating in any way, and she was brought back to the hospital. She was mute, so she could not speak at all. She could not really move her body voluntarily, but she would do these repetitive movements with her arm and her leg that were just purposeless. The doctors saw her and said, "Okay, this is more than epilepsy." Neurology was involved, psychiatry was involved. The syndrome that they were seeing in front of

them was catatonia, so they contacted us at Cornell because they knew we had a large ECT program that was willing to push the envelope and asked if we would be willing to treat this child with ECT.

We said yes, brought the patient to Cornell, and of course, had a very extensive conversation with the patient's mother and grandmother around what we were doing and the reason we thought it would be effective and so forth. And we treated that patient over the course of several weeks, and what we saw was her catatonia resolved entirely to the point where she was able to go to an acute rehab and walk out of it and was talking and playing with toys again. And at this point, is back in school and, and is functioning well again.

So, the lesson that we tried to communicate there was, one, that we believe catatonia is effectively treated with ECT regardless of what the underlying illness causing it is, right? We believe this is a medical procedure with a broad range of indications and shouldn't be viewed as something that only treats diseases we don't understand, that can treat diseases we understand as well, and that we really want to go to it when the patient is severely ill. And we don't really want it to be a treatment of last resort.

Erin Welsh:

It is truly just an incredible case. What is the mechanism for why you think ECT helped to resolve symptoms, especially when this is an autoimmune condition?

Dr. Lopez:

Right, if the patient is catatonic and we treat them with ECT, they may not be cognitively well underneath that. But they won't be catatonic and not being catatonic is very important. Because not being catatonic will give the patient the ability to participate in rehab, right? But the second and I think more important thing that we understand about ECT is that ECT promotes neuronal growth. It promotes the growth of new brain cells. In fact, at least in animal models, it's established that a single ECT session immediately promotes new growth of neurons in the hippocampus. And the fact that it does it very rapidly, even within one treatment, is what differentiates it from many of our medical therapies.

The average antidepressant takes about 6 to 8 weeks to take that effect. ECT works much faster than that. We treat people 3 times a week, so often within a week or 2 weeks, they're starting to feel better, and within 3 weeks they're totally resolved.

Erin Welsh:

I mean, it seems like just this one case helped to open the door and increase buy-in across the institutions that you work with, but I'm curious how you think this case demonstrates what ECT can do in psychiatric medicine more broadly.

Dr. Lopez:

What this case demonstrates is that the boundaries between what constitutes psychiatry and what constitute the rest of medicine are permeable and fluid, and it shouldn't be like, "Ugh, this isn't medical, it's psychiatric, and so send them to the psychiatrist, and because I've decided it's not medical and is psychiatric, the psychiatrist can help." That's the barrier I think we want to break down. Whatever is happening with these patients, it's happening in their brain. The way it's happening in their brain is manifesting in a specific way that as psychiatrists we're very familiar with. And when we treat these specific ways like catatonia with ECT, we have a lot of success.

We believe we can provide lots of services in collaboration with other medical disciplines. Psychiatry has long, long been siloed as a sort of adjacent discipline to the rest of medicine, and what I hope this case illustrates is that we don't see it that way, that we see ourselves as just another essential element in the medical community.

Erin Welsh:

Yeah. I mean, I think that's a really important perspective on how this case fits into psychiatry and medicine. And while ECT is growing in terms of adoption, I know that it has been stigmatized in part because of the way that it was performed historically, and today it remains quite a misunderstood treatment. Can you give me some historical context about the origin of that stigma and some of the safety issues that were involved in its early use?

Dr. Lopez:

When it was initially used, there was no anesthesia given and there was no muscle relaxant given, which meant that the patient had a relatively violent physical seizure last for 30 to 60 seconds that created the possibility of a variety of musculoskeletal injuries. There were dental injuries that were occurred. These were the most common side effects in the early days of ECT. It remained a very popular treatment because there was no other effective treatment for the majority of severe psychiatric illnesses.

One of the problems with that was that ECT ended up being utilized increasingly for treatments for which no medicines had been developed, and it turned out that for many of those, ECT was not particularly effective. For example, personality disorders, intellectual disability. Psychiatrists started using ECT more and more for those purposes to less and less effect because drugs were being used for the other purposes.

And so, because of that sort of historical context, questions about the efficacy of ECT began to arise and its popularity diminished somewhat in psychiatry. Then a very large, anti-psychiatry movement grew in Los Angeles, California, which is also the center of the entertainment industry, and movies and television became an outlet by which ECT could be effectively stigmatized.

Erin Welsh:

The power of this treatment is so very clear, and yet it does remain underutilized to some degree. What do you think would have to change in order for those who need it to have access to it that makes it a comfortable option for them?

Dr. Lopez:

Psychiatrists themselves have to get over the stigma, which is to say that we need to have the courage to embrace this treatment and tell what we believe to be the truth about it, which is that it is both safe and effective and more effective than many of our treatments and safer than many of our treatments, and we need to be doing it, right? What I have learned as I've been more involved in it and felt increasingly effective and impactful as a physician is that this is something that I should be deeply proud of and that I should trumpet, right? And I should have the courage to trumpet that because without that the treatment will not be available to others.

Erin Welsh:

I mean, you've accomplished so much through your leadership in the program here at NewYork-Presbyterian and Weill Cornell Medicine, and it's my understanding that this ECT program is among the largest in the country. Can you tell me about this program and your role in developing it?

Dr. Lopez:

NYP has a really deep and abiding commitment to behavioral health and to the treatment of mental illness. That is because the organization culturally believes that this is important and it is dedicated to it, and I think more than anything, that's been what's essential, and we get the partnership of hospital leadership and the other disciplines within the hospital because everyone recognizes that's part of our charge, is taking care of these patients and getting them well.

We're a very large program between Westchester Behavioral and Weill Cornell. In 2025, for example, we did 5,600 ECT treatments. On any given treatment day, we do somewhere in the vicinity of 45-50 treatments a day, which includes both psychiatric inpatients and outpatients who come for treatments, and we also do treat patients on medical floors and sometimes the intensive care unit as well.

Erin Welsh:

That's great. I mean, it seems like more people are willing to try this treatment overall, and I imagine that brings a lot of hope for the future. What changes are you most excited to see happen or you hope to see happen in the next, say, 5 to 10 years?

Dr. Lopez:

I think mostly what I would like to see is more access. I think I would like to see doctors thinking about ECT rather than a treatment of last resort as a treatment that they don't want to withhold. Rather than saying, "I was taught that I should wait on ECT," to think to themselves, "I shouldn't wait on this. This patient will get better right away."

Erin Welsh:

Dr. Lopez, thank you so much for taking the time to share your experiences with this remarkable treatment with me. I really enjoyed our conversation.

Dr. Lopez:

Thank you so much. I appreciate that.

Erin Welsh:

Thanks so much to Dr. Leonardo Lopez for talking with me today about the way his path-breaking use of ECT is expanding access for patients and winning new respect for the treatment across medicine.

I'm Erin Welsh. *Advances in Care* is a production of NewYork-Presbyterian Hospital. As a reminder, the views shared on this podcast solely reflect the expertise and experience of our guests. To listen to more episodes of *Advances in Care*, be sure to follow and subscribe on Apple Podcasts, Spotify, or wherever you get your podcasts. And to learn more about the latest medical innovations from the pioneering physicians at NewYork-Presbyterian, go to nyp.org/advances.

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