VOLUME 8 | JULY 2020

REGENCY PARK SENIOR LIVING

INDEPENDENT LIVING | ASSISTED LIVING | MEMORY CARE

WELLNESS REPORT

Parkinson's Patient Improving After First-Ever Stem Cell Therapy

By Amy Norton

In a first, scientists have treated a Parkinson's disease patient with his own skin cells -- re-purposing them to become key brain cells that the disease kills off.

Two years after receiving the experimental treatment, the patient has had no adverse effects, his doctors report. His symptoms, meanwhile, have either stabilized or gotten somewhat better.

"The improvement has been modest," said senior researcher Kwang-Soo Kim, who directs the molecular neurobiology laboratory at the Harvard-affiliated McLean Hospital, in Belmont, Mass.

"But," he added, "before this treatment he'd been deteriorating rapidly, and afterward his worsening stopped."

Kim said his team is planning to study the therapy in additional patients.

For now, this patient represents one demonstration that the approach is feasible. But James Beck, chief scientific officer of the Parkinson's Foundation, sounded some cautionary notes.

For one, he said, the therapy would be difficult to "scale up" and make widely available -- at least as the technology exists today.

Beyond that, its benefits for patients are unclear, according to Beck, who was not involved in the research.

The patient in this case, who was 69, reported quick improvements in quality-of-life measures soon after the procedure was done, which could reflect a "placebo effect," Beck said. And there's no evidence yet that

the therapy can slow the progression of Parkinson's, he added.

Parkinson's disease affects nearly one million people in the United States, according to the Parkinson's Foundation.

The cause is unclear, but as the disease progresses, the brain loses cells that produce dopamine, a chemical that helps regulate movement and emotional responses. The most visible symptoms are movement-related -- tremors, stiff limbs and coordination problems -- but the effects are wide-ranging and include depression, irritability and trouble with memory and thinking skills. All gradually worsen over time.

Medications and other treatments can lessen those effects, but there is no cure.

The approach Kim's team used is described in the May 14 New England Journal of Medicine. It's based on the premise that stem cells can serve as a source of new dopamine-producing brain cells. Stem cells are primitive cells that have the capacity to mature into different types of body cells.

In this case, the researchers created so-called induced pluripotent stem cells, or iPSCs.

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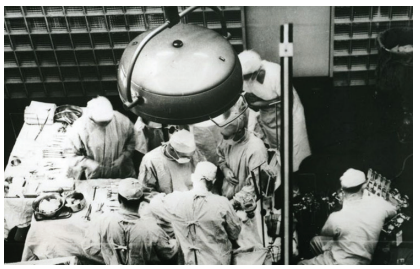
MEDICAL MILESTONES IN HISTORY

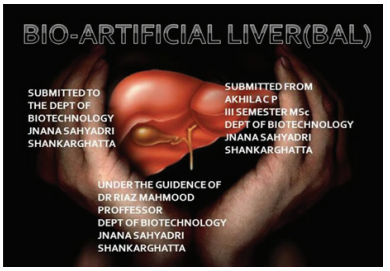


1954

Joseph E. Murray performs first successful kidney transplant at Peter Bent Brigham Hospital in Boston

1961

The first cochlear implant was implanted by William House and John Doyle in Los Angeles



2001

The first bio-artificial liver was developed by Dr. Kenneth Matsumura

They took cells from the patient's skin and reprogrammed them to become iPSCs, which are similar to embryonic stem cells -- the stem cells with the greatest capacity for generating body tissue.

Those iPSCs were then cultivated to take on the properties of dopamine-producing neurons (nerve cells), which the team surgically implanted in the patient's brain.

Since those replacement cells were derived from the patient's own body, the hope was that his immune system would tolerate them -- without the need for drugs to suppress the immune response.

And that's what happened, Kim said. Two years later, imaging tests showed that the transplanted cells were still alive and functioning. And as for the man's quality of life, he has made gains. His walking stride improved, and he has taken up some activities he'd previously abandoned, like swimming and biking.

However, Beck noted the timing: The patient reported substantial improvement in quality of life right after the surgery -- a time frame too short for the implanted cells to be having effects.

"So that was his perception," Beck said. "And we know that Parkinson's symptoms are really subject to the placebo effect."

He pointed to another reason that replacing dopamine-producing cells may not be a "magic bullet": Current medications that act on dopamine help improve movement problems, but not the range of non-movement symptoms.

Kim said that much research remains ahead. It's not clear, for example, what "dose" of dopamine-producing cells might work best, or at what point in the disease it might be best to intervene.

Another question is whether the transplanted cells will last or eventually malfunction -- which, Beck said, is a distinct possibility. Whatever underlying process caused the Parkinson's disease in the first place may still be present.

For now, Beck stressed that this procedure was done at two "premier" medical centers, and the therapy is not available outside of the research setting. He made that point because across the United States, various self-described "stem cell clinics" market treatments that are unproven and not approved by the U.S. Food and Drug Administration.

"You can't get this at some outpatient surgery center down the street," Beck said.

First Large Clinical Trial of COVID-19 Vaccine in U.S. Could Begin in July

A large clinical trial of the first U.S. COVID-19 vaccine could begin next month, according to Moderna Inc., which developed the vaccine with the U.S. National Institutes of Health.

The trial will assess whether the vaccine is effective and will include 30,000 volunteers who will receive either the vaccine or a dummy shot, the Associated Press reported.

That trial can't start until results of smaller, earlier-stage studies on safety and dosing are available, but Moderna said those studies are progressing well enough to start planning for the large trial.

About a dozen COVID-19 vaccines are in the early stages of testing worldwide, and the U.S. National Institutes of Health expects to assist several more of them into large, late-stage trials this summer, the AP reported.

If all goes well, "there will be potential to get answers" on which vaccines work by the end of the year, Dr. John Mascola, director of the NIH's vaccine research center, told a meeting of the National Academy of Medicine on Wednesday.

Hundreds of millions of doses of different vaccine candidates are being stockpiled by governments to use when/if scientists conclude that one is effective. The U.S. plans to have 300 million doses available by January, the AP reported.

AHA News: Here's What Doctors Know About Immunizations Right Now – You Still Need Them

There's no vaccine for COVID-19 yet. But there are routine immunizations that people aren't getting for a host of debilitating and potentially deadly diseases.

In May, the Centers for Disease Control and Prevention reported sharp drop-offs beginning in mid-March for pediatric vaccines ordered and given. And the World Health Organization estimated up to 80 million babies globally were missing recommended vaccinations due to disruptions from the COVID-19 pandemic.

But the problem isn't just related to kids' vaccines. Essential adult immunizations are also being neglected.

Doctors say: Call us. We can help you figure it out.

Childhood vaccination recommendations, which target a host of diseases including polio, measles, mumps and rubella, never changed during the pandemic, said pediatrician Dr. Sally Goza, president of the American Academy of Pediatrics. But behavior did.

"People were told to stay home. They've been scared to go to doctor's offices," she said. Fewer office visits have meant fewer vaccinations.

But despite the pandemic, it's crucial to stick to the schedule the CDC has devised for childhood vaccinations, Goza said. "There's a reason for that schedule. It's well thought out so children have protection as soon as they can, and it's spaced out to be safe and effective."

An outbreak of a disease like measles that can be prevented by vaccination is a horrifying thought, she said. "COVID is here for a while. If we (also) put ourselves at risk of a vaccine-preventable outbreak, we've increased our risk of children dying or being ill."

For adults, the No. 1 priority for immunization is against the flu this coming season, said Dr. Ada Stewart, president-elect of the American Academy of Family Physicians. Pneumococcal vaccination, which protects against a common cause of

severe pneumonia, also is vital in people 65 and older and others with certain underlying medical conditions. "The mortality and morbidity with that (pneumonia) is really high," Stewart said. "So it's really important those individuals are up to date on their pneumonia vaccine."

Given the fluid state of COVID-19 area by area right now, "That's where your primary care provider comes into play. We are the experts, we know what's going to be safe, we know the communities in which we work, we know our patients," said Stewart, who as a family physician treats people of all ages at her practice in Columbia, South Carolina.

"I tell patients I'm their guide. I'm their partner in their health."

As COVID-19 lockdowns have eased, pediatricians are urging parents, including through a social media campaign, to get their children caught up on care, Goza said. Besides talking about vaccines, during office visits "we look at development, growth, mental health of our children," she said.

"And we make sure families are doing well – parents have lost jobs, do they have enough food? Do we need to get them on programs to help? That's part of what we do – make sure they have what they need to take care of their children."

The prospect that a COVID-19 pandemic spike might land this fall amid flu season has doctors concerned for patients of all ages. Given that currently there is no vaccine to prevent infection with COVID-19, "the best we can do is vaccinate against the flu," Stewart said. "You really don't want to have two epidemics going on at the same time if we can help it, because it will make the possibility of more deaths imminent."

During a normal flu season, Goza's office in Fayetteville, Georgia, typically accommodates 50 to 60 kids a day for flu vaccinations. This year it will be critical to get as many kids vaccinated for flu as early as possible, she said.

"We do truly believe we'll have another wave of COVID, and if it comes in respiratory season, when kids get other respiratory illnesses, it's going to be very hard to understand what's going on with these kids."

For fall flu shots, "we'll have to be innovative to get people in and out quickly," Goza said. Drive-through tents, perhaps, or maybe flu shots just on Saturdays.

"I think pediatricians will come up with some great ideas to get that done because this is a critical year to make sure as many patients as possible get their flu vaccine," Goza said.

"And this will be good preparation for when a coronavirus vaccine comes out and we have to have a huge undertaking to get the vaccine to children and to adults."

Even Light Exercise Can Speed Stroke Recovery

Even light exercise can counter the damage of stroke in survivors, a new study suggests.

"Stroke is a major cause of disability in older adults," said research leader Neha Gothe, a professor of kinesiology and community health at the University of Illinois at Urbana-Champaign.

"We know that physical activity can improve how well people survive a stroke and recover after the fact," Gothe said. "But almost no research has looked at how physical activity of different intensities affects physical function among stroke survivors."

For the study, Gothe and her colleagues assessed daily physical activity in 30 stroke survivors for a week, looking at how much they moved and how well they could do routine daily physical tasks such as getting in and out of a car or pouring water from a heavy pitcher.

On average, the study participants did only about seven minutes of moderate-to-vigorous activity a day, the findings showed.

"In contrast, they averaged more than three hours of light physical activity each day," Gothe said. "This includes things like walking at a leisurely pace, housekeeping, light gardening or other activities that do not cause a person to break a sweat."

The amount of moderate-to-vigorous physical activity was the best predictor of the stroke survivors' levels of physical function, but their ability to perform daily tasks was much more closely associated with the amount of time they did light physical activity, such as leisurely walks or non-strenuous household chores.

The study was published online recently in the American Journal of Physical Medicine and Rehabilitation.

"Our findings are preliminary but suggest that -- in addition to moderate-to-vigorous physical activity -- those daily routines that keep us on our feet and physically engaged in lighter tasks also contribute to better physical functioning in stroke survivors," Gothe said in a university news release.

"Engaging in light physical activity can be healthy and beneficial, especially for those with chronic health conditions such as stroke," Gothe concluded.

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PUBLISHED BY:

REGENCY PARK SENIOR LIVING, INC.

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