Cell Discovery Predicts a Transplant Patient's Likelihood of Organ Rejection

Researchers hope the cell can soon be delivered to patients to protect against rejection

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The Ohio State University Wexner Medical Center

NEWS PACKAGE

SUGGESTED TEASE	RESEARCHERS MAKE A NEW DISCOVERY THAT MAY HELP PREVENT ORGAN REJECTION FOR TRANSPLANT PATIENTS. DETAILS, COMING UP.
	MORE ORGAN TRANSPLANTS WERE PERFORMED LAST YEAR THAN EVER BEFORE ¹ , AND WHILE TRANSPLANT SUCCESS RATES CONTINUE TO RISE, SERIOUS COMPLICATIONS STILL OCCUR THAT CAN CAUSE REJECTION, ORGAN FAILURE OR EVEN DEATH MONTHS OR YEARS LATER. BARB CONSIGLIO HAS THE DETAILS ON A NEW SCIENTIFIC DISCOVERY ² THAT PREDICTS A PATIENT'S RISK OF ORGAN REJECTION AND MAY LEAD TO THERAPIES TO PREVENT COMPLICATIONS.
(PACKAGE START)	(Nats - Sound) :02
CG: Courtesy: The Ohio State University Wexner Medical Center :00 - :03 Shots of Tammy's husband helping her with treatment	AFTER TWO AND A HALF YEARS OF DAILY HOME DIALYSIS TREATMENTS, TAMMY SEWARD WAS ECSTATIC TO FINALLY RECEIVE A KIDNEY TRANSPLANT. BUT A DAY AFTER RETURNING HOME FROM THE HOSPITAL, HER BODY BEGAN REJECTING THE DONOR ORGAN. :11
CG: Tammy Seward Kidney transplant patient	<i>"It's hard because you think you're going to get this kidney and you're going to be okay. You don't have to do it no more. And then that rejection came in within six days or seven days." :10</i>
Shots of organ transplant surgery	ABOUT ONE IN FOUR TRANSPLANT PATIENTS DEVELOPS ANTIBODIES THAT ATTACK THE DONOR ORGAN, MAKING IT MORE LIKELY THAT THE TRANSPLANT WILL FAIL. :07

CG: Dr. Ginny Bumgardner Ohio State Wexner Medical Center	"The antibody can cause immediate damage to the organ or acute rejection. And it can also cause long term graft rejection, which means that that patient's organ is not going to last as long." :11
Shots of Dr. Bumgardner in the lab	DOCTOR GINNY BUMGARDNER AND HER TEAM AT THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER EXAMINED WHY THESE ANTIBODIES DEVELOP IN SOME PATIENTS AND NOT OTHERS, AND IN A NEW STUDY DISCOVERED AN IMMUNE CELL THAT INHIBITS THE DEVELOPMENT OF ANTIBODIES THAT MAY PREDICT A PATIENT'S LIKELIHOOD OF ORGAN REJECTION. :14
Dr. Bumgardner (CG'd earlier)	<i>"This cell type was very interesting because it had the capacity to reduce antibody production in transplant recipients." :08</i>
Shots of Dr. Bumgardner in the lab	THOSE WITH HIGH LEVELS OF THE CELL WERE LESS LIKELY TO DEVELOP HARMFUL ANTIBODIES AND THE COMPLICATIONS THAT COME WITH THEM. RESEARCHERS HOPE THE DISCOVERY OF THE CELL WILL NOT ONLY ASSESS RISK OF ORGAN REJECTION, BUT WILL LEAD TO THERAPIES TO REDUCE THAT RISK. :12
Dr. Bumgardner (CG'd earlier)	<i>"If we increase the number of these cells in the patients who seem to have a relative deficit of them, would that prevent them from developing antibody after transplant?" :09</i>
Shots of Tammy with husband and grandson	TAMMY IS BACK ON THE TRANSPLANT LIST, AND IS HOPING THIS RESEARCH CAN HELP HER AND THE MORE THAN ONE-HUNDRED-TEN THOUSAND OTHERS WAITING FOR A LIFESAVING ORGAN ³ . :07
	"That'd make my day! That'd make me happy that you can do that and not reject another kidney." :07
Tammy Seward (CG'd earlier)	AT THE OHIO STATE WEXNER MEDICAL CENTER, THIS IS BARB CONSIGLIO REPORTING. :03
and grandson	IF EXPERTS ARE ABLE TO DELIVER THIS CELL
ANCHOR TAG	ELIMINATE THE NEED FOR TRADITIONAL IMMUNOSUPPRESSANT TREATMENTS IN THE FUTURE, WHICH ARE NOT ALWAYS EFFECTIVE AND INCREASE THE RISK OF INFECTION AND OTHER HEALTH ISSUES.

SECOND TRANSPLANT, WHICH MEANS MORE DONOR ORGANS AVAILABLE FOR THOSE ON
WAITING LISTS.

SOCIAL MEDIA

Share it! Suggested tweet:	Researchers at <u>@OSUWexMed</u> discovered a new cell that predicts a transplant patient's risk of donor organ rejection and may help reduce that risk in the future. <u>https://bit.ly/2Wsk5U9</u>
Suggested post:	Organ donation saves tens of thousands of lives every year, but many transplant recipients can develop antibodies that cause organ rejection, even years after surgery. Now, researchers at <u>The Ohio State University</u> <u>Wexner Medical Center</u> have discovered an immune cell that can predict a patient's risk of rejection and may lead to therapies to reduce that risk. <u>https://bit.ly/2Wsk5U9</u>

EXTRA BITES

	Bumgardner says future research will explore how to expand these cells: "Can the results from this particular study allow us to predict ahead of time which patients are likely to develop antibody after transplant and those which are not? We're also very interested in looking at how to develop these cells and what these cells need to expand and increase in number." :18
CG: Dr. Ginny Bumgardner Ohio State Wexner Medical Center	Bumgardner says those with fewer of the cells were more likely to develop antibodies: <i>"The exciting information that we found was that the patients who had a relative deficit of the CD8 T cells actually had, those were the patients who developed alloantibody or donor specific antibody after transplant."</i> :15
	Bumgardner explains how the cells may be used in the future: "We could use it as a therapy to do two things. One, to prevent antibody development in the first place, antibodies that are directed against the donor organ. And secondly, for patients who do develop antibody mediated rejection, we may be able to use the cells as a therapy to suppress the rejection." :21
	Tammy explains how doctors tried to save the kidney when she

CG: Tammy Seward Kidney transplant patient	developed antibodies: "All the doctors and stuff are very, very good. I mean, they explained everything that they were going to do, what they was going to try, what they can try to save it." :08
	Tammy explains what happened when she came home after transplant surgery: <i>"Within 24 hours, they said if I had problems come back.</i> <i>And I had problems. I went to my local emergency room.</i> <i>They told me to go there first. So I went there, and it didn't</i> <i>last." :10</i>

References

¹Transplant Trends, Unos, Jan. 15, 2020. Online: <u>https://unos.org/data/transplant-trends/</u>

²Inverse Association between the Quantity of Human Peripheral Blood CXCR5+ IFN-γ+ CD8+ T cells with de novo DSA Production in the First Year after Kidney Transplant, **Transplantation, Feb 6, 2020**. Online:

https://journals.lww.com/transplantjournal/Abstract/onlinefirst/Inverse_Association_Between_the_ Quantity_of_Human.95759.aspx

³Organ Donation Statistics, Health Resources & Services Administration, July, 2019. Online: <u>https://www.organdonor.gov/statistics-stories/statistics.html</u>

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