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Vitamin D deficiency shown to increase rejection rates in lung transplant patients

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(Medical Xpress) -- Vitamin D deficiency is associated with an increase in lung transplant rejection and infections, according to research conducted at Loyola University Health System (LUHS). Researchers also found that recipients who remained deficient for one year following the transplant had a higher mortality rate than those who had normal vitamin D levels. These data were published in the latest issue of *The Journal of Heart and Lung Transplantation*.

"Patients who undergo lung transplants are at risk for rejecting the organ, and two-thirds of these patients are vitamin D deficient," said Erin Lowery, MD, first author, assistant professor, Department of Pulmonary and Critical Care Medicine, Loyola University Chicago Stritch School of Medicine (SSOM). "Given the high prevalence of vitamin D deficiency in lung transplant patients and the growing evidence that this supplement helps the immune system tolerate the organ, optimal levels of vitamin D are critical for positive outcomes in these patients."

The study evaluated 102 patients who underwent a lung transplant and had vitamin D levels evaluated within 100 days prior to or following surgery. Twenty-one patients had normal vitamin D levels and 81 were deficient. The rejection rate in the deficient group was more than double that of the nondeficient group. Infections also were more frequent in the deficient group than in the nondeficient group (mean 4.01 versus 2.71). In addition, the mortality rate of vitamin D deficient patients one year after transplant was nearly five times higher than those who were not

deficient.

Prior to lung transplant, 52 percent of patients received a vitamin D supplement. An additional evaluation was performed one year after transplant to determine if levels were normal or deficient. Seventy-five patients had normal vitamin D levels and 27 were deficient. In the year after the lung transplant, all patients received a vitamin D supplement.

The health benefits of vitamin D are widespread and range from warding off cancer, osteoporosis, heart disease, diabetes and depression. Until now, researchers could only speculate that vitamin D also improves the health of lung transplant patients.

“This was the first study to explore the impact of vitamin D deficiency in lung transplant patients,” said Pauline Camacho, MD, director of the Loyola University Osteoporosis and Metabolic Bone Disease Center, Loyola University Health System (LUHS). “We have determined that there are multiple benefits to maintaining normal vitamin D levels in lung transplant patients."

Provided by Loyola University Health System

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