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1652 Poly-IgA Complexes and Disease Severity in IgA Nephropathy
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Skeletal Muscle Phenotype in Patients Undergoing Long-Term Hemodialysis Awaiting Kidney Transplantation
Jean-Sébastien Souweine, Fares Gouzi, Éric Badia, Pascal Pomies, Valérie Garrigue, Marion Morena, Maurice Hayot, Jacques Mercier, Bronia Ayoub, Morgie Le Quintrec, Fabrice Raynaud, and Jean-Paul Cristol
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Airflow Limitation, Fatigue, and Health-Related Quality of Life in Kidney Transplant Recipients
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COVID-19–Associated Mortality among Kidney Transplant Recipients and Candidates in the United States
Sumit Mohan, Kristen L. King, S. Ali Husain, and Jesse D. Schold

Timing of Kidney Clamping and Deceased Donor Kidney Transplant Outcomes
Simon Ville, Marine Lorent, Clarisse Kerleau, Anders Asberg, Christophe Legendre, Emmanuel Morelon, Fanny Buron, Valérie Garrigue, Morgie Le Quintrec, Sophie Girerd, Marc Ladrière, Laetitia Albano, Antoine Sicard, Denis Glotz, Carmen Lefaucheur, Julien Blanchereau, David Jacobi, and Magali Giral, for the EKiTE Consortium

Kidney Effects of Empagliflozin in People with Type 1 Diabetes
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Humoral Response to mRNA versus an Adenovirus Vector-Based SARS-CoV-2 Vaccine in Dialysis Patients

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Mark G. Parker and Stephen M. Sozio

Evidence For and Against Direct Kidney Infection by SARS-CoV-2 in Patients with COVID-19
Luise Hassler, Fabiola Reyes, Matthew A. Sparks, Paul Welling, and Daniel Batlle

Kidney Disease among People Who Are Incarcerated
Matthew Murphy, Ann Ding, Justin Berk, Josiah Rich, and George Bayliss

On the Cover
Case Description
A 62-year-old male with a history of kidney failure secondary to vesicoureteral reflux on long-term hemodialysis (HD) presented for kidney transplant. He had been on hemodialysis for 3 years. There was no history of diabetes mellitus or arterial hypertension. Physical examination revealed asthenia, and the patient was overweight (29 kg/m²) without muscle atrophy but with a significant decrease in muscle endurance. Interestingly, 1 year after kidney transplant, the patient did not report tiredness. Muscle biopsy was performed just before the kidney transplant.

Image Description:
Transmission electron microscopy analysis on muscle biopsy showed sarcomeric disorganization and proteolysis in the vastus lateralis muscles of long-term HD patients (center). We also observe an altered repartition of mitochondria coupled with an increase of mitochondrial size (left and center). Furthermore, patients present mitochondria with swelling or disrupted internal structures. Mit, mitochondria; Z, Z-line; C, control; P, patient. Scale bar 500 nm.

Teaching Points:
In HD patients, cellular muscle abnormalities are difficult to understand because of comorbidity, malnutrition, age, or sedentary lifestyle. In order to overcome these confounding factors, muscles were analyzed in highly selected HD patients undergoing kidney transplantation who were free of major comorbidities. Our study describes a specific muscle dysfunction characterized by a transition from type 1 (aerobic) to type 2 (anaerobic) muscle fibers without proteasome activation. Moreover, we observed alteration of mitochondria structure related to mitochondrial dysfunction through the activation of autophagy and mitophagy. These observations strongly suggest an energy deficiency in oxidative muscle and could explain the impaired endurance observed in long-term HD patients free of malnutrition and major comorbidities. (Images and text provided by Fabrice Raynaud, Montpellier University, INSERM, Montpellier, France)

The cover image can be found in this issue of CJASN as Figure 3 A and C in the article titled “Skeletal Muscle Phenotype in Patients Undergoing Long-Term Hemodialysis Awaiting Kidney Transplantation,” by Dr. Jean-Sebastien Souweine and colleagues on pages 1676–1685 (doi: 10.2215/CJN.02390221).