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- One-Year Mortality Rates in US Children with End-Stage Renal Disease
  Chavers, B.M.; Molony, J.T.; Solid, C.A.; Rheault, M.N.; Collins, A.J.

- Association between Circulating Thrombopoietin Levels and Cardiovascular Risk Prediction Scores in Renal Transplant Recipients
  Mansell, H.; Elnoselhi, H.; Shoker, A.

- Associations of Pre-Transplant Prescription Narcotic Use with Clinical Complications after Kidney Transplantation
Not only are dialysis access creation and maintenance prone to complications, but patients suffering from end-stage renal disease and its comorbidities generally have a high risk of adverse events during their continuous treatment. Preventive strategies are key to avoid harm and to improve the outcome of the treatment of the growing number of patients with chronic kidney failure, especially as doctors and nurses are not always aware of the consequences of unsafe behavior.

This publication is intended for health care professionals—nurses as well as doctors—and aims to raise the awareness of patient safety aspects, combining medical education with evidence-based medicine. After a general overview of the topic, an international panel of authors provides a diversified insight into important concepts and technical tricks essential to create and maintain a functional dialysis access.

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Adult stem cells and progenitor cells can respond dynamically to injury and fuel substantial regeneration of damaged tissues. For these reasons, they are thought to have important roles in the etiology of disease, malignancy, and aging.

In humans, there exists a renal progenitor system consisting of bipotent progenitors, tubular progenitors, and podocyte progenitors. Growing evidence indicates that some renal disorders can be related to renal progenitor dysfunction, suggesting that renal progenitor function may be modulated for therapeutic purposes. In this publication, the roles of renal progenitors and other stem cell types involved in the response to injury, cell therapy, reprogramming, and tissue engineering are explored, presenting the current foundation of tissue engineering/regenerative medicine strategies for future therapies of untreatable kidney disorders.

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Especially in Italy, but also all over the world, people like to meet over a cappuccino to talk about things like sports or politics before rushing off for work. I would like to invite you to take a cappuccino with me and engage in a conversation on topical issues in nephrology. As part of the “Cappuccino with Claudio Ronco” series, I will monthly select articles recently published in Blood Purification and complement them with an expert comment in the form of a short video posted on the YouTube channel of the International Renal Research Institute of Vicenza and on Karger.com.

Join the Blood Purification Journal Club and enjoy a Cappuccino with Claudio Ronco!
One-Year Mortality Rates in US Children with End-Stage Renal Disease
Chavers, B.M.; Molony, J.T.; Solid, C.A.; Rheault, M.N.; Collins, A.J.

This epidemiological study presents survival rates for pediatric end-stage renal disease patients over a 15-year period. Data from the United States Renal Data System database were used to identify patients aged 19 years and younger between the years of 1995–2010. Yearly cohorts averaged approximately 1,200 maintenance dialysis patients (60% hemodialysis, 40% peritoneal dialysis) and 1,100 transplant recipients. Approximately 50% of patients were aged 15–18 years, 55% were male, and 45% were female. The most common causes of ESRD were congenital/reflux/obstructive causes (55%) and glomerulonephritis (30%). One-year mortality rates were lower for peritoneal dialysis patients. Mortality rates for transplant recipients were consistently lower than rates for all dialysis patients.

Association between Circulating Thrombopoietin Levels and Cardiovascular Risk Prediction Scores in Renal Transplant Recipients
Mansell, H.; Elmoselhi, H.; Shoker, A. (Saskatchewan)

Biomarkers may assist in predicting CV events in kidney transplant recipients. In this study, the investigators examined whether thrombopoietin, a humoral inflammatory factor, was predictive of cardiovascular events in 95 stable kidney transplant recipients and 48 controls. They utilized the 7-year Major Cardiovascular Events Calculator using cross-sectional data, with a multivariate analysis between thrombopoietin and cardiovascular risk factors and patient demographics. They noted that thrombopoietin levels were significantly correlated with major cardiovascular events score, smoking and estimated GFR, but not age, diabetes, LDL level, or prior history of cardiovascular disease. However, only smoking and major cardiovascular events score remained significant after multivariate analysis. They concluded that circulating thrombopoietin levels may serve as a biomarker for cardiovascular disease in kidney transplant recipients.

Associations of Pre-Transplant Prescription Narcotic Use with Clinical Complications after Kidney Transplantation
Lentine, K.L. (St. Louis, Mo.); Lam, N.N. (London, Ont.); Xiao, H.; Tuttle-Newhall, J.E. (St. Louis, Mo.); Axelrod, D. (Hanover, N.H.); Brennan, D.C.; Dharnidharka, V.R.; Yuan, H.; Nazal, M.; Zheng, J.; Schnitzler, M.A. (St. Louis, Mo.)

The relationship between narcotic use and outcomes in kidney transplant recipients is not well described. The investigators utilized the national transplant registry, pharmacy records, and Medicare billing claims to see if there was a relationship between filling a narcotic prescription in the year before a transplant, and kidney transplant outcome in 16,322 patients. In a multivariate analysis, transplant recipients with the highest level of pre-transplant narcotic use had 2–4 times the risk of post-transplant ventricular arrhythmias, mental status changes, drug and alcohol abuse, and accidents compared to non-users. They also had a 35–45 percent higher risk of cardiac arrest and hypotension. They concluded that high-level prescription narcotic use before transplantation is associated with a significant increase in adverse outcomes.
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