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Focus on patient safety tools for health care professionals

Patient Safety in Dialysis Access

Editors
Matthias K. Widmer
Jan Malik

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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Smoking-Related Glomerulopathy: Expanding the Morphologic Spectrum

Non-diabetic patients with chronic kidney disease (CKD) with hypertension and an underling lesion of nodular glomerulosclerosis resembling that seen in diabetic patients (the Kimmelstiel-Wilson lesion) often have a prominent history of prolonged and excessive cigarette smoking. In a small but important study, Salvatore and co-workers extend this phenotype by adding diffuse mesangial sclerosis, endothelial damage suggestive of a thrombotic micro-angiopathy, and glomerular neovascularization to the pathological spectrum of the clinical entity rightfully designated as 'smoking-related glomerulopathy.'

End-Stage Renal Disease Attributed to Acute Tubular Necrosis in the United States, 2001–2010
Foley, R.N.; Sexton, D.J.; Reule, S.; Solid, C.; Chen, S.-C.; Collins, A.J.

Renal replacement therapy is usually initiated when chronic kidney failure progresses to end-stage renal disease. Not uncommonly, initiation of dialysis is due to acute tubular necrosis. Foley et al report using USRDS data that compared to a control group among patients starting dialysis due to ATN there is a greater likelihood of recovery of renal function (34% at one year versus 4%); however, the likelihood of death is also elevated (cumulative mortality 38 vs. 27%). The good news is that over the years, the risk of death is falling and chances of renal recovery increasing.

Single-Dose Rituximab for Recurrent Glomerulonephritis Post-Renal Transplant
Spinner, M.L.; Bowman, L.J.; Horwedel, T.A.; Delos Santos, R.B.; Klein, C.L.; Brennan, D.C.

A small retrospective study from a single site which examined low dose Rituximab (200 mg median dose per patient) treatment for post-renal transplant recurrent glomerulonephritis. The investigators noted that with treatment there were more complete remissions in those patients with recurrent membranous nephropathy (p = 0.03), less acute rejection, no increase in infection risk, and an increased time to graft loss (p = 0.04).

Renal Function Decline in Recipients and Donors of Kidney Grafts: Role of Aortic Stiffness

This prospective study (n = 101 pairs) examined factors associated with kidney function decline over time in kidney function donors and their recipients. In the recipients, the yearly estimated eGFR declined a mean of 4.8 ml/min/1.73m², and after that at a rate of 2.2 ml/min/1.73m². Later decline after the first year was related to donor age and aortic stiffness. In the donors, the yearly rate of eGFR decline was 0.7 ml/min/1.73m², and was related to donor age at the time of nephrectomy.
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American Journal of Nephrology

Founded: 1981
Category: Clinical and Basic Research
Field of Interest: Nephrology
Listed in bibliographic services, including Current Contents®, Pubmed/MEDLINE, Biological Abstracts, Excerpta Medica

2015: Volumes 41, 42
6 issues per volume
Language: English
ISSN 0250–8095
e-ISSN 1421–9670

Impact Factor: 2.646

More information at www.karger.com/ajn