Highlights in this issue:

- **Intradialytic Blood Pressure Abnormalities: The Highs, The Lows and All That Lies Between**
  Assimon, M.M.; Flythe, J.E.

- **Prevalence of Hyperkalemia in Diabetic and Non-Diabetic Patients with Chronic Kidney Disease: A Nested Case-Control Study**
  Loutradis, C.; Tolika, P.; Skodra, A.; Avdelidou, A.; Sarafidis, P.A.

- **Mineral Metabolites, Angiotensin II Inhibition and Outcomes in Advanced Chronic Kidney Disease**
The fifth revised edition of this highly successful book presents the most extensive enhancement since Using and Understanding Medical Statistics was first published 30 years ago. Without question, the single greatest change has been the inclusion of source code, together with selected output, for the award-winning, open-source, statistical package known as R. This innovation has enabled the authors to de-emphasize formulae and calculations, and let software do all of the ‘heavy lifting’.

This edition also introduces readers to several graphical statistical tools, such as Q-Q plots to check normality, residual plots for multiple regression models, funnel plots to detect publication bias in a meta-analysis, and Bland-Altman plots for assessing agreement in clinical measurements. New examples that better serve the expository goals have been added to a half-dozen chapters. In addition, there are new sections describing exact confidence bands for the Kaplan-Meier estimator, as well as negative binomial and zero-inflated Poisson regression models for over-dispersed count data.

The end result is not only an excellent introduction to medical statistics, but also an invaluable reference for every discerning reader of medical research literature.

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Highlighted Article Summaries

**Intradialytic Blood Pressure Abnormalities: The Highs, The Lows and All That Lies Between**

Assimon, M.M.; Flythe, J.E.

In this issue of *American Journal of Nephrology*, Assimon and Flythe review the intradialytic blood pressure changes during dialysis and its prognostic significance. They note that intradialytic hypotension, intradialytic hypertension, and intradialytic blood pressure variability all have prognostic value. Despite clinical practice guidelines, the diagnostic criteria for intradialytic hypertension and hypertension and blood pressure variability has no consensus and that there is need to elucidate optimal treatment for each of these BP manifestations.

DOI: 10.1159/000441982

**Prevalence of Hyperkalemia in Diabetic and Non-Diabetic Patients with Chronic Kidney Disease: A Nested Case-Control Study**

Loutradis, C.; Tolika, P.; Skodra, A.; Avdelidou, A.; Sarafidis, P.A

This study compares the prevalence of hyperkalemia in those with and without diabetes with CKD. The authors used a nested case-control design of 180 type-2 diabetic and 180 non-diabetic patients with CKD followed in a Nephrology outpatient clinic. Prevalence of hyperkalemia was defined as potassium >5mEq/L or use of sodium polystyrene sulfonate, and further by potassium >5, ≥5.2, and ≥5.5 mEq/L. It was calculated in both groups by CKD stages. The prevalence of hyperkalemia was higher in diabetic CKD patients and remained around 30% higher with all secondary definitions used. In Stage 3 CKD, hyperkalemia was higher in diabetics (28.6% vs 17.5%, p = 0.036) and in Stage 4 equally high in both groups (35.5% vs 32.3%, p = 0.788). In multivariate analysis, Stage 4 CKD (OR: 4.535, 95% CI: 1.561–13.173), use of ACEIs (OR: 2.228, 95% CI: 1.254–3.958), and smoking (OR: 2.254, 95% CI: 1.218–4.171) were independently associated with hyperkalemia. The authors conclude that diabetes mellitus increases the prevalence of hyperkalemia only in CKD Stage 3 patients that in Stage 4 CKD the reduced use of ACEIs is major determinant of hyperkalemia.
Mineral Metabolites, Angiotensin II Inhibition and Outcomes in Advanced Chronic Kidney Disease


The authors investigated whether circulating mineral metabolism markers modify outcomes in response to RAAS inhibition in subjects with advanced chronic kidney disease (CKD). A retrospective cohort study, that analyzed the association of angiotensin converting enzyme inhibitor (ACEI) and angiotensin receptor blocker (ARB) use with all-cause mortality and with dialysis initiation among 1753 subjects (1,099 chronic kidney disease, eGFR 18 ± 6 ml/min/1.73 m² and 654 end stage renal disease) from the HOST study. Mean follow-up was 3.2 years; there were 714 (41%) deaths and 615 subjects (56%) initiated dialysis. In adjusted analyses, all subjects treated with ACEI/ARB had a significantly lower hazard of death [HR 0.81 (95% CI, 0.70–0.95; p = 0.007)]. Those with CKD not on dialysis treated with ACEI/ARB also had a lower hazard of dialysis initiation [HR 0.86 (95% CI, 0.73–0.97; p = 0.0306)]. The association with mortality did not differ by level of mineral metabolism marker (p for interaction >0.16), but did with dialysis initiation according to the median serum phosphorus level (p for interaction <0.001). The authors conclude that RAAS inhibition was associated with decreased all-cause mortality independent of disordered mineral metabolism among mostly male HOST subjects with advanced CKD and ESRD. Also the renoprotection associated with RAAS inhibition was attenuated by higher serum phosphorus levels.
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