variation, 49.9%). From a clinical standpoint of incremental dialysis, the issue of overestimation of residual kidney function is nontrivial. For a 70-kg patient (total body water of ~40 L), urea clearance of 2 mL/min translates to a weekly standard Kt/Vurea (stdKt/Vurea) of 0.5. With incremental dialysis, over-estimation of residual urea clearance by 2 mL/min will lead to a 30% lower peritoneal dialysis dose (goal stdKt/Vurea, 1.7) and 24% lower hemodialysis dose (goal stdKt/Vurea, 2.1 [see 3]). We agree that the established method of urine collection is problematic in clinical practice. We recently showed that residual kidney function in dialysis patients can be estimated by endogenous filtration markers without urine collection.4 We believe that improving estimation using serum markers is a clinically relevant solution to the problems with urine collection.

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References


Formation of an Exercise in CKD Working Group

To the Editor:

At the 2015 American Society of Nephrology Kidney Week meeting in San Diego, several dozen researchers and clinicians met informally to discuss the need for creating an “Exercise in CKD Working Group.” Similar groups are already established in Canada, Europe, and Australia, but no analogous group currently exists in the United States. Based on the enthusiastic discussions at this meeting, there appears to be a broad consensus that forming such a group in the United States is long overdue.

Two major themes emerged at this initial meeting. First, despite robust data regarding its benefits,1 implementation of exercise programs in dialysis clinics is woefully inadequate,2 especially in the United States. A central focus of this working group would be to identify specific areas of research that are needed to strengthen the data for the efficacy of exercise and that would help develop efficient and cost-effective implementation of exercise into the routine care of these patients. Second, despite the availability of significant resources to guide exercise programming (eg, www.LifeOptions.org), many clinicians are either unaware of these resources or believe they need additional guidance, financial resources, and/or provider policy changes in order to implement exercise for their patients. Thus, another important charge of this group would be creation of a clearinghouse of resources related to exercise in chronic kidney disease and provision of guidance to clinicians on their use. Implementation research is urgently needed to help provide a better framework for clinics to adopt exercise programs. To accomplish these goals, we propose an online community with infrastructure support from the major kidney societies, as well as a practical emphasis on exercise as a clinical intervention at national conferences and dialysis provider meetings. We believe this group could have an important role in fostering an exchange of ideas that could advance both our research agendas and clinical practice.

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Recalibration of 24,25-Dihydroxyvitamin D3 Results Based on NIST Standard Reference Material 972a

To the Editor:

We recently reported1 that lower estimated glomerular filtration rate is associated with lower circulating concentrations of 24,25-dihydroxyvitamin D3 (24,25(OH)2D3), a metabolite that is central to the catabolism and clearance of 25-hydroxyvitamin D3 (25(OH)D3). In that article, circulating 24,25(OH)2D3 and 25(OH)D3 concentrations were quantified

using high-throughput mass spectrometry assays developed and validated in our laboratory.2–4 More recently, the National Institute of Standards and Technology (NIST) developed a candidate reference method procedure and used it to quantify 24,25(OH)2D3 concentration in their Standard Reference Material (SRM) 972a.5 When we used our assay to quantify 24,25(OH)2D3 in SRM 972a, we noticed that our observed concentrations were higher than those reported by NIST. Using this information, we recalibrated our assay, ran the reference materials again, and obtained concentrations that agreed with those certified for SRM 972a. From these data, we determined that the 24,25(OH)2D3 concentrations published in our report1 should be divided by a factor of 2.0 to compare our data with those generated in other laboratories for which results are calibrated to SRM 972a. This calibration does not affect the conclusions of our article, including the association of estimated glomerular filtration rate with circulating 24,25(OH)2D3 concentration or the correlations of demographic factors, clinical parameters, and regulatory hormones with 24,25(OH)2D3 concentration. Our experience is a testament to the importance of standardization programs in the proper interpretation and comparison of data from many laboratories over time.

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References

RESEARCH LETTER

Hemodialysis Vascular Access Creation in Patients Switching From Peritoneal Dialysis to Hemodialysis: A Population-Based Retrospective Cohort

To the Editor:

Frequently, PD is stopped due to resistant or recurrent peritonitis, inadequate clearance, concurrent illness, or lack of home support. Recent reports estimate that 10% to 30% of incident patients switch from PD to HD within the first year, and this patient cohort tends to have higher mortality versus those on PD therapy only.1–4 This may be associated with high catheter use, although this is unproven.1,3 Patients switching between modalities require regular follow-up for a smooth transition. Patterns of vascular access creation may be important benchmarks for this process of care. We aimed to determine the proportion of patients with AV access (fistula or graft) creation prior to and 18 months after a switch from PD to HD and to examine secular trends in AV access creation.

The study design, setting, and data sources are described elsewhere; concise methods are in Item S1. Briefly, we conducted a retrospective cohort study of adult patients in Ontario who switched from PD to HD between 2001 to 2011 inclusive. During this period, there were no practice standards or clinical pathways regarding AV access creation for patients starting HD. Vascular access coordinators were not deployed in Ontario CKD programs until 2012 to 2013.

We used linked health care databases to identify patients who started PD as their first modality and switched to HD. The HD start date served as cohort entry date. The primary outcome was pre- and post-HD AV access creation. We used a 5-year lookback from cohort entry to capture all AV access creations prior to starting HD in anticipation of PD failure (no AV accesses were created prior to starting PD).1,7 We followed up patients for 18 months after cohort entry to capture AV access creations.

We used χ2 or t test to compare baseline characteristics between patients with and without an AV access creation.2–4 We estimated time-to-event curves using an unadjusted marginal Cox model approach to account for clustering within dialysis centers, with patients censored at death, return to PD, dialysis withdrawal, or transplantation. We used SAS, version 9.3, for all statistical analyses and considered P < 0.05 to be statistically significant.

Our cohort consisted of 1,126 individuals who switched from PD to HD, with a median age of 65 (IQR, 54-74) years. Baseline characteristics are in Table 1; patient demographics and comorbid profiles remained relatively stable over our study period.

An AV access was created in 14% (162/1,126) of patients before switching from PD to HD. AV access creation rates before HD start were similar for men and women (15% and 13%, respectively) and for those younger than 65 and 65+ (16% and 13%, respectively). Among those with no AV access creation prior to HD, 46% and 52% had an AV access creation 12 and 18 months after cohort entry, respectively (Fig 1). During the study period, whether before or after HD start, we found a decreasing trend for an AV access creation (P < 0.001). The proportion of patients with any AV access creation was 73% in 2001 to 2003, 63% in 2004 to 2007, and 47% in 2008 to 2011.

In previous work, we showed that 36% of patients starting HD naive and 16% of patients with kidney transplant failure had an AV access created before starting HD.6,10 For those starting HD with no AV access creation, 40% and 38% of HD-naïve patients and patients with a transplant failure, respectively, had AV access creations within 12 months of HD start. In this previous work, we also found a decreasing trend for AV access creation over...