had a fellow recently take PL, a sizable number of PDs did not know their institutional policies. PDs play an important role in helping fellows understand PL options and supporting their individual decisions. It is important for PDs to proactively understand available options. Creatively utilizing coverage resources, allowing flexible scheduling, and creating a supportive culture can minimize pressure fellows may feel to take less PL than they would otherwise choose. Investigation into fellow experiences and the impact of various strategies will help guide the opportunity we have within CVD to clarify policies, develop shared PL models, encourage program support, and emphasize parental wellness. These require the investment of specialty societies and institutional leadership. The return on this investment will increase consistency and support for PDs and fellows nationally and ultimately improve diversity and wellness in our specialty.

*Julie B. Damp, MD
Michael W. Cullen, MD
Victor Soukoulis, MD, PhD
Marty C. Tam, MD
Friederike K. Keating, MD
Islam Abudayyeh, MD, MPH
Atif Qasim, MD, MSCE
Paul Theriot, BSBA
Gaby Weissman, MD

*Division of Cardiovascular Medicine
Vanderbilt University Medical Center
1215 21st Avenue South
MCE 5th Floor South Tower
Nashville, Tennessee 37232
E-mail: Julie.boyd@vumc.org
Twitter: @BoydDamp

https://doi.org/10.1016/j.jacc.2020.05.044

Please note: Dr. Abudayyeh has served as a transcatheter valve proctor for Edwards Lifesciences. Dr. Qasim has received research grants from Siemens, Medtronic, and Abbott Vascular; and has served as a consultant for Siemens. Dr. Weissman has served as director of an academic core laboratory for Abbott Medical, Ancora Heart, Boston Scientific, and Medtronic. All other authors have reported that they have no relationships relevant to the contents of this paper to disclose.

The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the *JACC* author instructions page.

REFERENCES

1. Stack SW, Eurich KE, Kaplan EA, Ball AL, Mookherjee S, Best JA. Parenthood during graduate medical education: a scoping review. Acad Med 2019;94:1814–24.

2. Willett LL, Wellons MF, Hartig JR, et al. Do women residents delay childbearing due to perceived career threats? Acad Med 2010;85:640–6.

3. Douglas PS, Rzeszut AK, Bairey Merz CN, et al. Career preferences and perceptions of cardiology among US internal medicine trainees. JAMA Cardiol 2018;3:682–91.

4. Damp JC, Auseon AJ, Walsh MN, Theriot P, Tam MC, Weissman G. Landscape of US cardiovascular training programs. J Am Coll Cardiol 2019;73:2892–5.

5. Humphries LS, Lyon S, Garza R, Butz DR, Lemelman B, Park JE. Parental leave policies in graduate medical education: a systematic review. Am J Surg 2017;214:634–9.

The Devil Is in the Details When Considering the OAC Efficacy-Safety Equation in Dialysis Patients

We have read the paper by Pokorney et al. (1) on oral anticoagulation (OAC) in patients with end-stage renal disease (ESRD) and atrial fibrillation (AF). The authors concluded that, in a Medicare cohort, OAC was not associated with a reduced risk of stroke; instead, it induced significantly more bleeding events. We acknowledge the sensitive matter of OAC in dialysis, yet we have a few concerns regarding this paper.

First, >99% of the patients the authors included were on vitamin K antagonists (VKAs) (<1% direct oral anticoagulants); therefore, the title of the paper should have been changed, mentioning only VKAs and specifying this in the Conclusions section. A 2017 meta-analysis (2), including 17,380 patients from more recent dialysis cohorts, reported suboptimal anticoagulation with VKAs, demonstrating an underestimation of its true protective effect.

At the other end of the efficacy-safety equation, a recent grand Medicare cohort of patients on dialysis receiving OAC (3) found that apixaban use (in 2,351 patients) was associated with a lower risk of bleeding compared with warfarin (with similar reductions in thromboembolic and mortality risk). Therefore, one cannot use the generic term "OAC" without specifying the type of drug used.

Second, a recent statement of the Council of the European Renal Association-European Dialysis Transplant Association (ERA-EDTA) EUDIAL Working Group (4) reported on 6 trials supporting that patients with ESRD and AF on VKAs had lower rates of mortality than those not on anticoagulants, especially in the presence of a high target therapeutic range time. This could explain the contradictory results of

Pokorney et al. (1), as they have not included data on target therapeutic range.

In conclusion, statements such as "no association between OAC use and reduced risk of stroke or death" should be nuanced, based on the type and efficacy of drugs used. Until then, one should be careful about considering OACs and VKAs to be interchangeable constructs in dialysis.

*Alexandru Burlacu, MD, PhD
Adrian Covic, MD, PhD

*Department of Interventional Cardiology
Cardiovascular Diseases Institute
"Grigore T. Popa" University of Medicine and Pharmacy
Bd Carol 1 No 50
700503, Iasi
Romania
E-mail: alburlacu@yahoo.com

https://doi.org/10.1016/j.jacc.2020.03.085

Please note: The authors have reported that they have no relationships relevant to the contents of this paper to disclose.
The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the *JACC* author instructions page.

REFERENCES

1. Pokorney SD, Black-Maier E, Hellkamp AS, et al. Oral anticoagulation and cardiovascular outcomes in patients with atrial fibrillation and end-stage renal disease. J Am Coll Cardiol 2020;75:1299–308.

2. Van Der Meersch H, De Bacquer D, De Vriese AS. Vitamin K antagonists for stroke prevention in hemodialysis patients with atrial fibrillation: a systematic review and meta-analysis. Am Heart J 2017;184:37–46.

3. Siontis KC, Zhang X, Eckard A, et al. Outcomes associated with apixaban use in patients with end-stage kidney disease and atrial fibrillation in the United States. Circulation 2018;138:1519–29.

4. Burlacu A, Genovesi S, Ortiz A, et al. Pros and cons of antithrombotic therapy in end-stage kidney disease: a 2019 update. Nephrol Dial Transplant 2019;34:923–33.

The Difficult Balance of Oral Anticoagulation in Patients With End-Stage Renal Disease

We read with great pleasure the paper by Pokorney et al. (1), regarding how the use of oral anticoagulants (OACs) may not actually reduce the risk of death or stroke and is adversely associated with a higher risk of hospitalization in patients with end-stage renal disease (ESRD).

The study included patients on various OACs including apixaban, dabigatran, rivaroxaban, and warfarin. However, it is well known that apixaban has been associated with lower risk of bleeding compared with other OAC agents (2). Current guidelines suggest using warfarin or apixaban in patients with ESRD. The analysis does not include the subset of patients on each direct OAC, which would have been helpful for determining the rates of stroke and bleeding.

In patients with valvular atrial fibrillation, the CHA_2DS_2-VASc (congestive heart failure, hypertension, age [>65 = 1 point, >75 = 2 points] diabetes, previous stroke/transient ischemic attack [2 points]) score may not be as valuable in predicting the risk of stroke (3). The study does not outline the patients with valvular versus nonvalvular atrial fibrillation. This would have been significant, as patients with mitral valve disease have higher risk of stroke (4). The updated American Heart Association guidelines suggest that OAC therapy should be initiated in women with CHA_2DS_2-VASc scores of 3. This may have altered the number of patients in the high-risk stroke category.

The ATRIA score was used to determine bleeding risk. The score was >5 in approximately 93% of the population, which is correlated to a low annual risk of stroke. However, bleeding risk scores have poor predictive abilities in patients on dialysis (5).

The weak association between the use of OAC and reduced risk of stroke in patients with ESRD is an area that requires further investigation to determine the fate of anticoagulation in this population.

*Irtqa Ilyas, DO
Rajkumar Doshi, MD, MPH

*Department of Internal Medicine
University of Nevada-Reno
School of Medicine
W11 (Academic Department Office)
1155 Mill Street
Reno, Nevada 89502
E-mail: iilyas@unr.edu

https://doi.org/10.1016/j.jacc.2020.03.086

Please note: The authors have reported that they have no relationships relevant to the contents of this paper to disclose.
The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the *JACC* author instructions page.

REFERENCES

1. Pokorney SD, Black-Maier E, Hellkamp AS, et al. Oral anticoagulation and cardiovascular outcomes in patients with atrial fibrillation and end-stage renal disease. J Am Coll Cardiol 2020;75:1299–308.

2. Kuno T, Takagi H, Ando T, et al. Oral anticoagulation for patients with atrial fibrillation on long-term hemodialysis. J Am Coll Cardiol 2020;75:273–85.