Letter to the editor: “Depolarization and repolarization alternans in an anesthetized canine ischemia model”

John E. Madias
Mount Sinai School of Medicine, New York University, and Division of Cardiology, Elmhurst Hospital Center, New York, New York

TO THE EDITOR: The article by Gordon et al. (1) provides plenty of food for thought, particularly in terms of its possible extrapolation to the clinical situation. The authors used cardiac electrical alternans (EA) of depolarization and repolarization measured in unipolar epicardial electrograms in an anesthetized canine ischemia model to predict ischemia-induced spontaneous ventricular fibrillation (VF). Data consisted of unipolar epicardial electrograms acquired 4 s before and 5 min after the inception of ischemia. The prevalence, and not the amplitude, of EA of both the QRS and ST/T EA after ischemia was predictive of VF. I would appreciate receiving a comment from the authors on the following. First, since EA was also seen before ischemia, is it not a contradiction that the presence, and not the amplitude, of EA is predictive of VF? Second, could the methodology used be implemented in standard ECGs or Holter monitorings? Third, in Fig. 3, S waves appear to be present in the electrograms before ischemia, which disappeared after ischemia, (a well-known accompaniment of ischemia in animal experimentation and clinical experience); was this a consistent finding? Fourth, was there any correlation between the amplitude of the QRS, or ST/T, and the amplitude of EA noted in the 8 × 14 electrode matrix the authors employed, and if yes, does this calls for an adjustment of the latter by the former? An index has been proposed for such an adjustment (2), which possibly may be in the same vein as the authors’ assertion that the presence of EA may be predictive of VF, and not the amplitude, which could be a reflection of the corresponding amplitudes of QRS and ST/T.

DISCLOSURES
No conflicts of interest are declared by the author.

REFERENCES