Years ago, lidocaine was routinely administered for arrhythmia prophylaxis after acute myocardial infarction, but this practice was abandoned after an association with excess mortality was identified. Researchers in King County, Washington (excluding Seattle), retrospectively analyzed data for adult patients with witnessed non-traumatic out-of-hospital cardiac arrest with ventricular fibrillation/ventricular tachycardia (VF/VT) as the initial rhythm, and who had transient or sustained return of spontaneous circulation (ROSC) at any time during resuscitation. Lidocaine was the first-line anti-arrhythmic for treatment of shock-refractory VF/VT; its use for arrhythmia prophylaxis after ROSC was discretionary.

Of 1721 patients with VF/VT arrest during the 17-year study period, 425 received prophylactic lidocaine after first ROSC. Recurrent VF/VT arrest occurred in significantly fewer lidocaine recipients than non-recipients (16.7% vs. 37.4%). Lidocaine recipients were significantly more likely to survive to hospital admission (93.5% vs. 84.9%) and to hospital discharge (62.4% vs. 44.5%) than non-recipients. There was no evidence of harm associated with post-ROSC lidocaine use.

Comment: In this study, administration of post-resuscitation prophylactic lidocaine in patients with initial VF/VT cardiac arrest reduced recurrent VF/VT, but this treatment’s effect on long-term mortality or neurological status is not clear. Nevertheless, refibrillation has been associated with worsened survival, and this study showed no evidence of harm from lidocaine use — unlike prior studies that showed a possible association with bradycardia and asystole. While intriguing, this study is not a call to change practice but rather suggests that post-arrest lidocaine warrants evaluation in a randomized trial.

— Kristi L. Koenig, MD, FACEP, FIFEM (Link to: http://emergency-medicine.jwatch.org/misc/board_about.dtl#aKoenig)

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