

Impact of Intraprocedural Pressor Use on Catheter Ablation for Ventricular Tachycardia

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Abstract

Background: Ventricular tachycardia (VT) remains a leading cause of morbidity and sudden death. Improvements in catheter ablation have significantly advanced this option as a treatment method for refractory VT. Despite advances, use and impact of inotrope and vasodepressor medicines as part of intraprocedural management during VT ablation have been understudied. **Methods:** We conducted an exploratory, retrospective analysis of consecutive patients undergoing VT ablation. Patient, intra and peri-procedural data, focusing on pressor use and hemodynamics through ablation, and procedural endpoint data were collected. **Results:** From 2014-2017, 149 patients underwent VT ablation of which 67% exhibited cardiomyopathy (53% ischemic). Most procedures (71%) were conducted under general anesthesia. In those with cardiomyopathy, steady-state use of dobutamine and dopamine was more common though substantial use of phenylephrine was noted. In adjusted analyses, (1) dobutamine was associated with increased procedure time (402.5 ± 18.8 vs 347.2 ± 14.0 min, $p = 0.03$), (2) dopamine was associated with increased number of distinct VTs (2.8 vs. 2.2, $p < 0.001$) while both dopamine and dobutamine resulted in increased intra-procedural cardioversions (1.3 vs. 0.6, $p < 0.001$ and 1.34 vs. 0.66, $p = 0.001$, respectively) and (3) dobutamine dose exhibited a linear correlation with post-ablation length of stay. **Conclusions:** In this exploratory work, we sought to understand effects of hemodynamic drug use on short-term, procedural outcomes of VT ablation. Salient findings include: (1) arrhythmogenic nature of inotropes resulting in an increase in intraprocedural cardioversions, (2) greater propensity for induction of non-clinical VTs with use of intraprocedural dopamine and (3) substantial use of phenylephrine in those with underlying cardiomyopathy.

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