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Poster Sessions

Different modulatory effects of isoflurane and halothane on arrhythmogenesis elicited by dofetilide in rabbits.

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We compared proarrhythmic effects of dofetilide under the isoflurane- and halothane- anesthesia using the acute atrioventricular block rabbit. In the isoflurane group (n=6), dofetilide at 10 and 100 µg/kg prolonged the monophasic action potential duration (MAP₉₀) of the ventricle by 172 ± 23 and 224 ± 31 ms, and the numbers of R on T type premature ventricular contractions (PVCs) were 1.5 ± 0.8 and 2.3 ± 1.3 beats/min, respectively. Meanwhile, torsade de pointes (TdP) appeared in 2 out of 6 animals at the high dose, which terminated spontaneously. In the halothane group (n=6), dofetilide prolonged the MAP₉₀ by 69 ± 7 and 116 ± 14 ms, and the numbers of R on T type PVCs were 6.4 ± 4.9 and 0.4 ± 0.2 beats/min at the low and high dose, respectively. Meanwhile, TdP appeared in 2 out of 6 animals at the low dose, which degenerated into ventricular fibrillation. The arrhythmia was not observed at the high dose in the survived 4 animals. Notably, the cycle length of TdP in the halothane group was significantly shorter than that in the isoflurane group (144 ± 5 ms vs 234 ± 8 ms). The responses of isoflurane and halothane to proarrhythmic actions of dofetilide may be associated with their different electrophysiological modification to trigger generation and ventricular conduction as indicated by R on T type PVCs and cycle length of TdP.