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The effect of antiarrhythmic drugs on rate-dependent cardiac behavior HANA DOBROVOLNY, BINAYA TULADHAR, Texas Christian Univ — While there are many studies examining the biomolecular effects of antiarrhythmic drugs and many studies examining their clinical effect, their effect on cardiac dynamics at the cellular and tissue levels is not well understood. We use a mathematical model of a human ventricular cell to study the effect of antiarrhythmic drugs on the appearance of alternans and 2:1 behavior over a range of doses. We study three different classes of drugs, calcium channel blockers, potassium channel blockers and sodium channel blockers, and compare their effects on cellular dynamics.

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