

References

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Drugs

DPH AND ARRHYTHMIAS DPH (diphenylhydantoin) depressed automaticity, conduction and contractility in isolated perfused atria of rabbits and dogs. The depression resembled that seen after administration of quinidine. These findings are at variance with those of others, who have found improved conduction with DPH. The effects of DPH were markedly influenced by extracellular potassium—high concentrations enhance the effects, while low concentrations antagonized them. Increasing the concentrations of extracellular sodium also antagonized DPH effects. (Katzung, B. G., and Jensen, R. A.: *The Depressant Action of Diphenylhydantoin on Electrical and Mechanical Properties of Isolated Rabbit and Dog Atria: Dependence on Sodium and Potassium*, *Amer. Heart J.* 80: S0 (July) 1970.)

ABSTRACTER'S COMMENT: It is fascinating to study the effects of various antiarrhythmic drugs on maximum following frequency, transmembrane action potentials, and conduction velocity in isolated perfused tissues—but difficult to apply this information in the treatment of arrhythmias in patients. Various ions, pH, local hypoxia, stretch, the automatic nervous system, and a host of other factors influence the response of the human heart to antiarrhythmic drugs. There are also qualitative, as well as quantitative, differences in responses to low vs. high concentrations of drugs.