

COMPETITIVE PROBLEMS IN THE DRUG INDUSTRY 13663

clinical research work in this area should be further nurtured, but that it must be balanced by a broad base in fundamental animal research as well.

5. Any other aspects of the subject which you think might be helpful to the Subcommittee.

I feel strongly that the time has come in terms of the oral hypoglycemic agents to restudy their effects in animals and patients. It is my feeling that since recent animal studies are proving of considerable interest in terms of the actions of these drugs on organs such as the heart, adrenal glands, and liver, it would be wise to restudy these compounds in animal systems during the time their clinical use is reevaluated in order to see whether we can gain an understanding of the mechanism of the cardiovascular deaths or even reproduce them in animals. Here I note with particular interest two recent pieces of data in animals: 1) the summary statement of the work of Wissler et al. which states that in rhesus monkeys fed an average American diet for 74 weeks containing 20 mg/kg tolbutamide, there were present in the coronary arteries two times more frequent and three times more severe atheromatous changes than in the coronary arteries of control monkeys. 2) the work of Hsu et al. from our Department of Pharmacology at Virginia which demonstrates that in heart, adrenal medulla and other organs, sulfonylureas inhibited catecholamine release from the nerve endings of the autonomic nerves. Thus the function of the autonomic nervous system, which provides the