

# Publications

## Book reviews

**Lipids: A Clinicians' Guide** by L.A. Simons and J.C. Gibson (University Park Press, 233 E. Redwood St., Baltimore, MD 21202, 1980, 82 pp. \$13.95).

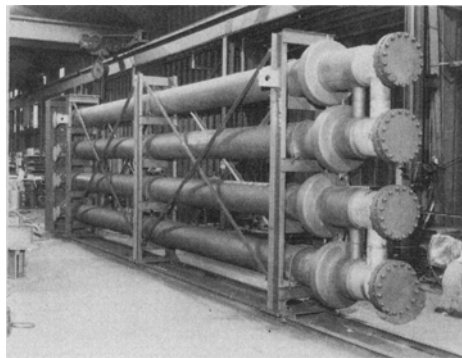
Despite the all-encompassing title, this book deals only with coronary heart disease. The authors are proponents of risk factor intervention and believe in polyunsaturated fatty acids, restricted cholesterol intake, lipid-lowering drugs and ion exchange resins. They are, however, also reasonably objective, albeit a bit defensive, in their review of the literature. The multiple risk factor situation—hypertension, cigarette smoking and hyperlipidemia—usually has been viewed as posing the best opportunity for intervention. Simons and Gibson, however, focus solely on lipid intervention.

A few quotes from chapter III, "Is Risk Factor Intervention Worthwhile?" would seem appropriate. "Secondary prevention refers to management of patients who already have clinical manifestations of vascular disease. Secondary prevention has been practiced in trials and in clinical medicine for many years because such patients are numerous and have strong motivation. Secondary prevention inter-

vention on behalf of lipids has been generally unrewarding (with certain exception to be discussed later in this chapter)." "Between 1965 and 1977 at least nine dietary intervention studies have been reported, four being primary prevention in type." "In essence, dietary intervention in the presence of existing coronary heart disease had no consistent effect on mortality although it may have reduced morbidity." "The Sydney Diet Heart Study offered a fat-modified polyunsaturated enriched diet to myocardial infarct survivors, aged 30 to 59 years, over a 2 to 7 year follow up period. Control subjects followed a diet with partial fat modification. Despite a favorable influence on plasma lipid levels there was no significant difference in survival between the two groups. This result essentially confirmed earlier findings in a U.K. study."

"The Coronary Drug Project was a double-blind trial in male survivors of myocardial infarction utilizing one of four therapeutic agents: estrogens, dextrothyroxine, nicotinic acid (niacin) and clofibrate. Excessive mortality in the active treatment group necessitated premature termination of patients on estrogens or thyroxine, but the six year experience with clofibrate and nicotinic acid was

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reported in 1975. Neither drug had any significant influence on total mortality rates comparing active therapy with placebo, although a trend towards fewer non-fatal re-infarctions was observed in the nicotinic acid treated group." The following quotes refer to the WHO European Primary Prevention Trial with clofibrate. "This trial produced some disquieting features. The cholecystectomy rate for gallstones was significantly increased in the treated group, although still at a very low level. This effect has been described in previous clofibrate trials and in trials using polyunsaturated fats. Furthermore, there was an excess number of deaths in the active treatment group from diseases of gallbladder, liver and intestine, including malignant neoplasms of these sites."

If these direct quotes from two proponents of lipid intervention are indeed representative of the current state of the art, I hate to think how many millions of dollars have gone down the drain. The authors seem to express the view that the large trials have been unsuccessful because the extent of lipid lowering has been inadequate. They advocate aggressive treatment on an individual patient basis to provide a substantial decrement. In reading through the descriptions of the trials, however, one point consistently intrudes. Mortality does not seem to go down. What "side effects" are to be expected from such aggressive treatment?

As many in the fat and oil industry have learned in the last 25 years, it is necessary to be aware of recommendations being made to clinicians.

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**Advances in Lipid Research**, Vol. 17, edited by R. Paoletti and D. Kritchevsky (Academic Press, 111 Fifth Ave. New York, NY, April 1980, 308 pp., \$31.00).

This is the latest volume of a well established review series published annually since 1963. Volume 16 was reviewed in this column in September 1979. Chapters include: Body Cholesterol Removal; Role of Plasma HDL, by Tall and Small; HDL Metabolism, by Nicoll, Miller and Lewis; Cholesterol Metabolism in Clinical Hyperlipidemias, by Sodhi, Kudchodkar and Mason; On the Mechanism of Hypocholesterolemic Effects of Polyunsaturated Lipids, by Paul, Ramesha and Ganguly; Lipid Peroxidation in Mitochondrial Membrane, by Vladimirov, Olenov, Suslova and Cheremisina; and Membrane Cooperative Enzymes As a Tool for the Investigation of Membrane Structure and Related Phenomena, by Farias. Two chapters on HDL seem appropriate and consistent with the tremendous recent interest in this area. Four chapters on cholesterol, however, appear excessive and certainly continues the trend in this series in recent years of over-emphasis in this area. The editors are to be particularly congratulated, however, on securing a good, readable chapter covering Russian work on lipid peroxidation and chemiluminescence. A great deal of this material has been previously available only in the Russian-language journals. There has been a definite surge of interest in chemiluminescence in the U.S. which should be further stimulated by appearance of this review. The final chapter focuses on membrane fluidity and allosteric enzymes. The role of membrane fluidity in the process of communication of hormonal action is extensively discussed.

As with previous volumes, the text is clear and the figures and tables are of good quality.

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**Nutrition and Environmental Health: The Influence of Nutritional Status on Pollutant Toxicity and Carcinogenicity**, Vol. 1, The Vitamins, by E.J. Calabrese, (John Wiley and Sons, Inc., New York, 1980, 585 pp., \$60.00).

This volume, part of the Wiley-Interscience series on Environmental Science and Technology, is the first of two designed to assess critically the influence of nutritional status on pollutant toxicity. The book contains five lengthy chapters, all of which are similarly organized. Each chapter has an introductory section that gives background on the vitamin. Subsequent sections are organized according to pollutant characteristics such as heavy metals, irritant gases, carcinogens and physical factors. The chapters end with a discussion and synthesis of the preceding sections.

Chapter 1 deals with vitamin A. There is an emphasis on vitamin A as a chemoprotective agent in hydrocarbon-induced epithelial cancer. The interactions of vitamin A with aflatoxin B, PCB, DDT, heavy metals, irritant gases, and radioactivity and noise are also covered.

The second chapter provides critical assessments of the interactions of the B vitamins with toxic substances in the environment. In addition to the types of toxic compounds considered with respect to vitamin A, the effects of various industrial compounds such as pyridine and hydrazine on individuals inadequate in B vitamins are considered. Also included is a major section on the effects of oral contraceptives on some B vitamins.

Ascorbic acid dietary status is the subject of chapter 3. This major chapter is divided into 10 sections as follows: background information on ascorbic acid; enzymatic detoxification; pesticides and herbicides; heavy metals; non-carcinogenic hydrocarbons; environmental carcinogens; interactions with medicines; air pollutant irritants; physical agents; and policy implications. The chapter ends with a discussion of the possible need to change the RDA for ascorbic acid because of its extensive interactions with a large number of pollutants.

Chapters 4 and 5 deal with vitamins D and E, respectively. The chapter on vitamin D considers its interaction with aflatoxin; the effect of D on the gastro-intestinal absorption of heavy metals; interactions with fluoride and lead; ozone, vitamin D and the incidence of bone fractures; and other pollutant interactions. The chapter on vitamin E deals with similar pollutant interactions discussed with respect to vitamin A and the B vitamins but there is an emphasis on environmental oxidants such as ozone and nitrogen oxide.

This is a well organized book and the coverage is both comprehensive and critical. It raises a lot of questions about the possible need to modify the dietary intakes of vitamins in individuals exposed to certain pollutants. The book should be of value to those interested in environmental and occupational health and to nutritionists in general.

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