containing 1% of Pb. However, it was found that the catalytic activity of pure CuO was greater than that of CuO containing Pb.

The lower activity of the catalyst containing Pb

may be due to the blocking of the pores by the deposition of Pb, which forms a diffusion barrier preventing the reacting substances from reaching the active catalyst surface.

COMMUNICATIONS

Aortic Lipolytic Enzymes in Atherosclerosis

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The mechanism by which cholesteryl esters accumulate in the arterial wall has not so far been elucidated. Previous work has shown that in atherosclerotic rabbit aorta there is increased esterification of cholesterol, especially with respect to oleate, increased lipase activity and decreased cholesteryl ester hydrolase activity (Patelski *et al.*, 1970). All these factors would favour the accumulation of cholesteryl esters. It has also been suggested that the deposition of esterified rather than free cholesterol is more damaging to the arterial wall (Howard, 1968), since free, but not esterified, cholesterol is easily transported across cell membranes (Rothblat *et al.*, 1967).

In a continuation of these studies, groups of baboons were made atherosclerotic by feeding them on a hypercholesterolaemic diet for 6 months and giving them five injections of bovine serum albumin (250 mg/kg body wt.) at 2-week intervals, so as to produce immunological injury. All eight animals showed aortic atherosclerosis with a mean percentage area affected of 46.3 ± 12.5 . Aortic lipase activity was increased by 80%, but cholesteryl ester hydrolase activity was unchanged. Compared with animals on a control diet, oleate and arachidonate were increased and linoleate was decreased in the cholesteryl esters; arachidonate was increased and linoleate was decreased in phosphatidylcholine (lecithin). The increased arachidonate could be attributed to dietary egg-yolk lipids.

An intravenous injection of polyunsaturated phosphatidylcholine (Lipostabil; Nattermann, Cologne, Germany) (250 mg/kg body wt.) was given thrice weekly to another group of animals treated similarly to those above. The mean percentage area of aortic atherosclerosis was decreased to 9.5 ± 4.4 . Aortic lipase activity was normal, but cholesteryl ester hydrolase activity was increased by 50%. The elevated plasma concentration of cholesterol (Lipostabil-treated: 226 ± 123.3 mg/100 ml; saline-treated: 245 ± 15.6 mg/100 ml; control: 116 ± 7.5 mg/100 ml), the concentration of phospholipids and the fatty compositions of cholesteryl esters and phosphatidyl-

choline were unchanged. These results are consistent with the view that lipolysis is an important mechanism for the removal of cholesteryl esters in the early atherosclerotic lesion and that Lipostabil decreased aortic lipid deposition by its effect on lipolytic enzymes.

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Hypocholesterolaemic and Hypolipidaemic Role of 3-Hydroxy-3-methylglutarate in Rabbits Fed on an Atherogenic Diet

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The hypolipidaemic role of 3-hydroxy-3-methylglutarate in normal as well as in hypercholesterolaemic rats has already been established in this laboratory (Beg & Siddiqi, 1967, 1968). Similar results were obtained with normal rabbits (Khan *et al.*, 1970). Experiments were performed to study the effect of 3-hydroxy-3-methylglutarate in resisting the elevation of plasma lipid concentrations in rabbits fed on an atherogenic diet (Kritchevsky *et al.*, 1961). The rise in concentrations of serum cholesterol and phospholipids after 1 week of 3-hydroxy-3-methylglutarate treatment was 10% less than that of the control group. During the second week of treatment this rise was 25% less. After 2 weeks the concentration of serum triglycerides was 35% lower than that of the control group.

After 5 weeks of feeding of the rabbits on the same atherogenic diet 3-hydroxy-3-methylglutarate was very effective in lowering the serum lipid concentrations. A detailed comparative study of the distribution pattern of lipids in serum, liver and aorta of the