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Lack of Effect of Disodium Calcium EDTA on Human Serum Cholesterol and Low-Density Lipoproteins. (24957)

H. ENGELBERG*
Division of Laboratories, Cedars of Lebanon Hospital, Los Angeles

Conflicting results have been reported of the effect of ethylenediamine tetraacetate (EDTA) upon dietary induced hypercholesterolemia in experimental animals(1-3). In man a reduction of serum cholesterol was noted following the use of EDTA when administered intravenously(4), and subsequently oral effectiveness of the drug was claimed(5). In the latter instance, however, the simultaneous use of a lowered animal fat intake made it difficult to evaluate the contribution of the chelating agent. More recently a marked decrease in beta lipoproteins, determined by paper electrophoresis, was found in 5 psoriatic patients after 10 days of oral disodium calcium EDTA therapy in doses of 1.5-3 grams daily(6). Accordingly the present study was undertaken to evaluate the effect of the drug upon serum cholesterol and low-density lipoproteins in man.

Materials and methods. Eleven patients were studied. The series included individuals of both sexes, in different age groups, and had an approximately equal number of healthy subjects and those with atherosclerotic cardiovascular disease. There was no dietary change during the study. Three grams of EDTA† were prescribed daily, in divided doses for 4 weeks. Blood samples were drawn for serum cholesterol and low density lipoprotein determinations prior to and at the end of the 4 week medication period. Cholesterol was measured by the method of Kingsley and Schaffert(7), and the lipoproteins were ultracentrifugally analyzed.

Results. The results are shown in the Ta-

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† Versenate—Supplied by Riker Labs.

TABLE I. Serum Cholesterol and Low-Density Lipoprotein Values before and after 4 Weeks Therapy with Versenate in 11 Patients.

				Low-density lipoproteins*					
		Cholesterol		Sf 0-12		Sf 12-400		A.I.†	
Age	Sex	Control	V'senate	Control	V'senate	Control	V'senate	Control	V'senate
58	♀	1012	1065	1407	1259	310	331	195	184
57	♀	270	299	438	541	180	125	75	74
66	♂	210	187	296	339	405	221	101	73
65	♀	240	302	456	517	225	193	85	86
68	♀	302	532	673	719	518	564	158	171
70	♀	299	302	526	517	406	437	124	128
72	♂	272	265	544	521	355	284	117	102
54	♂	253	233	485	493	210	196	85	84
29	♂	225	249	396	434	409	451	111	122
40	♂	493	651	920	1111	252	281	136	160
47	♂	325	302	639	634	283	322	113	120

* Ultracentrifugally analyzed at Inst. of Medical Physics, Belmont, Calif.

† Atherogenic Index $= \dfrac{\text{Sf 0-12 lipoproteins} + \text{Sf 12-400} \times 1.75}{10}$.

ble. There were no consistent changes in any of the lipid categories beyond those which may have occurred spontaneously.

Discussion. The findings of the present study showed no cholesterol or lipoprotein lowering effect of the medication. This implies that the results previously reported(5) were probably due to the lowered fat content of the diet rather than the chelating agent.

Summary. Calcium disodium EDTA, in total dose of 3 g daily for 4 weeks, had no effect upon serum cholesterol and low-density lipoproteins of 11 humans.

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In vitro Assay of Hog Intrinsic Factor Concentrates Employing Paper Electrophoresis and Co^{60}-B_{12}.* (24958)

Grant H. Barlow and Kenneth J. Frederick
(Introduced by Floyd C. McIntire)
Research Division, Abbott Laboratories, N. Chicago, Ill.

Almost thirty years ago the substance in normal gastric juice, known as intrinsic factor, was discussed by Castle(1). Many attempts have since been made to isolate the active principle in pure form. Progress has been made, although electrophoretic and chromatographic evidence suggests that even the very best preparation is only 10-20% pure. Isolation and purification work on intrinsic factor has been hampered by lack of adequate assay procedures. At first the only method available was based on extent of hematological response registered by a pernicious anemia patient in relapse(2). This is still the only procedure accepted by the USP Anti-Anemia Board for evaluating potency of commercial

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