

Fourier analysis (frequency range, 2-9.5 MHz). An ultrasonic index of attenuation was derived from the slope of the best-fit line relating attenuation and frequency obtained from the Fourier transform. Acquisition of ultrasonic data was improved with the use of a specially designed small diameter receiving transducer. Myocardial creatine kinase content was assayed in each region to provide an independent index of regional injury. Results obtained from ultrasonic and biochemical analyses correlated with a correlation coefficient between the two of 0.80 in 24 regions of myocardium from the six dogs studied 4-5 weeks after infarction, and 0.72 in 20 regions from the five dogs studied 9-11 weeks after infarction. These findings indicate that regional infarction is associated with quantitative changes in ultrasonic attenuation.

THE ERYCITHON SYNDROME. PROGRESSION OF CORONARY ATHEROSCLEROSIS AND DIETARY HYPERLIPIDEMIA. D.T. Nash, G. Gensini, H. Simon, T. Arno and S.D. Nash (Upstate Med. Center, SUNY Buffalo, and Hamilton Col., N.Y.) *Circulation* 56, 363-6 (1977). One hundred nineteen patients with coronary artery disease confirmed by coronary arteriograms were studied. Cine coronary arteriography confirmed progression if atherosclerosis in 106 (89%) patients (mean age 50.9 yr) and nonprogression in 13 (11%) patients (mean age 50.3 yr). Progression was defined as follows: any increase to 50% stenosis, 50% to 75% narrowing, 75% to 90%, 90% to 99%, 99% to total occlusion. Only one patient of the 106 who progressed (less than 1%) had ideal values for both cholesterol and triglyceride. Three of 13 patients (23%) who did not progress had ideal lipid values ($P < 0.005$). Fifty-four of 106 patients who progressed had cholesterol levels ≥ 250 mg%; none of 13 patients who did not progress had such levels ($P < 0.005$). Thirty-nine of 98 (40%) patients who progressed had hypertension; only one (8%) who did not progress had hypertension ($P < 0.025$). Seventy-four of 96 patients who progressed were smokers (77%); two of 13 nonprogression patients smoked (15%) ($P < 0.005$).

MONTE CARLO STUDIES OF THE HYDROCARBON REGION OF LIPID BILAYERS. H.L. Scott, Jr. (Dept. of Physics, Oklahoma State Univ., Stillwater, OK) *Biochim. Biophys. Acta* 469, 264-71 (1977). We present the results of a Monte Carlo study of systems of hydrocarbon chains attached to a plane interface and interacting through hard core repulsive forces only. The chain-order parameters which we find in our studies are compared to experimental results (NMR and ESR). The role of "kink" states and the relevance of our studies to theoretical models are also discussed. ●

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