MEDICINE

Artery Hardening Delayed

Diet promises to delay hardening of the arteries. The diet is effective in removing the particular cholesterol molecule which is associated with atherosclerosis.

➤ WAYS of delaying or slowing down through diet the progress of hardening of the arteries are very hopeful for the future. More progress in detecting this number one cause of human death and disability is also being made.

In a paper delivered in New York before the New York Academy of Medicine, Dr. John Gofman of the University of California's Donner Laboratory reported further confirmation of results first made known several weeks ago.

Dr. Gofman's report is cautious and he warns that further long-range results are essential even though results seem more and more promising.

The disease studied is atherosclerosis, which causes all but about three per cent of hardening of arteries. Cholesterol has been long condemned as the villain in atherosclerosis. However, this was not previously certain, since some individuals with high cholesterol in blood never get hardening of arteries.

Dr. Gofman has determined that there are at least four types of giant molecules in blood containing cholesterol. The presence of three types seems to be associated with atherosclerosis. The fourth type is not so associated. The presence of the fourth type may explain how some people can have lots of cholesterol in their blood without hardening of arteries.

Dr. Gofman reported that in 230 men with coronary heart trouble (atherosclerosis occurs in 95% of these cases) 91% had the defective molecules. The figure was 97% in women.

All of 30 cases of angina pectoris, four cases of nephritis, 16 cases of hypothyroidism, in all of which atherosclerosis is common, showed high concentrations of defective molecules. Almost all hypertensives and diabetics, similarly plagued by atherosclerosis, were also found with high concentrations of defective molecules in the blood.

The picture is sharply different with a large number of normal individuals tested, all of whom had lower concentrations. Defective molecules appeared in lower concentrations, however, among some apparently normal individuals.

The incidence and degree of concentration of the abnormal molecules corresponds to the incidence of atherosclerosis in the general population. For example, concentrations are almost non-existent in women under 40 but show a sharp increase over that age. The incidence and concentration increased with age in men up to 60.

Dr. Gofman reported low fat and cholesterol dietary studies in both normals and those with arterial disease. He found that the defective molecules should be diminished considerably or eliminated entirely in a large percentage of individuals by such measures. The rate of elimination varied. In some moderate cases, diet eliminated them in two to three weeks. In other cases, a rigid diet for four weeks was required. In an overwhelming majority of cases considerable reductions were achieved. Resuming their former diet brought a restoration of defective molecules.

Nineteen patients on restricted diet following coronary attacks for three months to three years were found to have lower concentrations than either diseased or normal individuals of corresponding age and sex groups, indicating the efficiency of the diet in removal of the defective molecules.

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AERONAUTICS

Extra Power from Engine

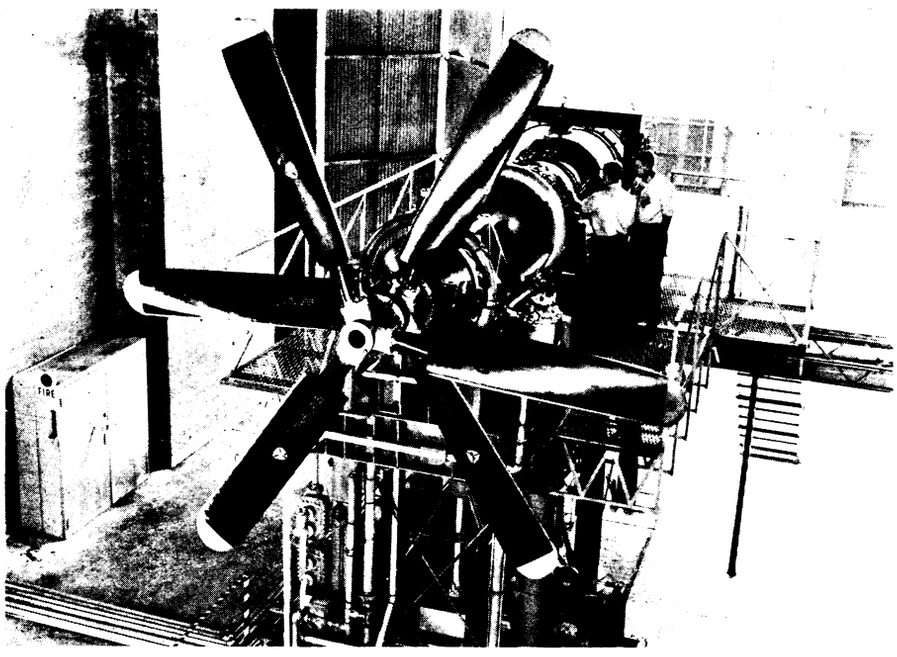
➤ A NEW powerful gas-turbine, propeller-type, airplane engine, a turbo-prop which has now completed shop-run tests and is ready for trial in the air, is featured by its ability to provide additional thrust by means of auxiliary jet power.

This new engine was developed for the U. S. Air Force by the Turbodyne Corporation, a subsidiary of Northrop Aircraft, Inc. It will be known as the XT-37 Turbodyne and is claimed to be the most powerful propeller-type engine in the world.

The engine has now successfully completed the official 50-hour endurance proving program, which means that it is fully qualified for preliminary flight tests. In tests it has actually delivered more than 10,000 horsepower in thrust, Northrop officials state.

During this endurance test it was incorporated in a complete power unit consisting of the engine, reduction gears, propeller and single-lever automatic electronic control system. It set a record by delivering 7,500 horsepower continuously over long intervals of time.

In general appearances, the new turbo-prop resembles the axial-flow type of turbo-jet engine. Turbo-prop engines are similar to turbo-jets except that the power developed is used to rotate a shaft which in turn rotates conventional propellers. This new en-



RECORD-SHATTERING—The XT-37 Turbodyne, the world's most powerful propeller-type aircraft engine, promises to extend ranges considerably over that now possible with pure jets.