SURGERY

New Heart Operation

Skilful surgery is saving patients with ailment involving a ballooning of the aorta, known to doctors as aneurysm of the aorta.

➤ THE PATIENT had a blood-filled sac almost as big as a basketball in his upper abdomen where the wall of the body's main artery, the aorta, had thinned and ballooned out. He was not expected to live more than a few months.

Today he is alive and well, thanks to new, skilful surgery which, since last February, has saved five other patients with the same ailment. Doctors call it aneurysm of the aorta.

The new operation, which has already saved six out of nine patients, was reported by Dr. Henry T. Bahnson of Johns Hopkins University School of Medicine at the meeting of the Johns Hopkins Medical Society in Baltimore.

What Dr. Bahnson has done in these cases is, briefly, to cut off the blood-filled sac and sew up the hole in the aorta wall which was the opening to the sac.

Surgeons have tried for many years to cure patients with this condition. Some have tried to cut the sac out, others have tried tying it off, wiring it, or wrapping it with reinforcing material. Results so far, however, have been poor and the general opinion has been that these patients could not be helped.

Dr. Bahnson modestly credits his success to "luck" and general advancement in operations on blood vessels. Fellow surgeons who have watched him operate credit skilful management for his good results.

The operation can be done, Dr. Bahnson says, in all regions of the aorta. It is feasible, he pointed out, because of two features "which are not generally recognized." 1. The opening to the aneurysm, or the tear in the aorta wall, is usually small compared to the size of the aneurysm itself. 2. Although the aorta may show signs of disease, it often is able to function adequately, and with penicillin there is at least hope of arresting the inflammation and preventing disturbance of the big artery's function.

These aneurysms, or sacs, form on the sides of the aorta usually as a result of syphilis. This was true of all but one of Dr. Bahnson's patients. The exception was a nurse whose aneurysm developed after injury in an auto accident.

Even though syphilis now can be cured easily and quickly by penicillin treatment, doctors still see a number of patients with syphilitic aneurysms of the aorta who never knew they had syphilis and consequently never got treatment for it. Most of them are men in their forties who are otherwise perfectly well and can live if the aneurysm is removed successfully.

Before this new operation, however, the patients could live a year or two at most, the average living only eight or nine months. And while not all had aneurysms the size of basketballs, the smaller, golf-ball-sized ones caused pain in the chest, shortness of breath and obstruction to swallowing.

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CHEMISTRY

Chlorophyll No Deodorant

➤ A "DOUGHNUT that exists for the hole"—that is a chemist's description of chlorophyll, green coloring of plants, which is being put into everything from toothpastes to dog foods because of its supposed deodorizing power.

The supposed deodorizing effect of chlorophyll as well as some of the other properties claimed for it were debunked by Prof. Alsoph H. Corwin, head of the department of chemistry in the Johns Hopkins University, at a meeting of the American Chemical Society in New York.

The hole in the chlorophyll "doughnut," or ring structure, however, is fact, not bunk. It exists, Prof. Corwin said, for the purpose of holding metallic elements, which are thus made available for certain types of chemical reactions. In the case of chlorophyll, the metallic material is magnesium. In hemin, the blood's red pigment, the metallic material is iron.

Chlorophyll derivatives taken by mouth to deodorize perspiration and other odors probably do not get into the blood stream in sufficient quantity to deodorize, and, if they did, they would be "extremely dangerous" in making their users sensitive to light, Prof. Corwin declared.

As a deodorant for foul-smelling wounds, Prof. Corwin said that "the experiments necessary to demonstrate that solutions of chlorophyll are in fact superior to those of common salt have not been performed."

Space deodorant devices which contain chlorophyll derivatives appear to freshen the air for two reasons, Prof. Corwin said: 1. They always contain a pleasant odor which can mask less pleasant odors; 2. Most such preparations also contain formaldehyde. The common action of this substance, he pointed out, is "so to paralyze the sense of smell that odors can no longer be detected."

"Chlorophyll is probably the most important pigment in the world," he said, "since it is ultimately responsible for the fixation of the energy of the sun by plants. This process, called photosynthesis, is the final source of all our food and a major fraction of our power."

Aside from this, chlorophyll has esthetic value in "coloring the vistas visible from hills and mountains. It furnishes chemists, physiologists and other scientists with a lot of good clean fun. For other purposes," Prof. Corwin stated, "we are not certain that it has any value."

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AERONAUTICS

Turbo-Compound Engines Give Planes High Speed

➤ A NEW type of power plant, what is called a turbo-compound engine, will be used in a version of a Constellation transport plane now ready to make its first flight. This type of engine, already tested for two years in long-range anti-submarine sea patrols, is a standard piston engine with special exhaust turbines to utilize power otherwise wasted.

This Super Constellation, equipped with four turbo-compound engines, will have a maximum speed approaching 400 miles an hour and a long-range cruising speed of 340 miles an hour, it is claimed by officials of the Lockheed Aircraft Corporation, Burbank, Calif. The engine is recognized as the most efficient piston power plant ever developed, they state. Besides lowering operation costs, it provides a speed and long-range performance combination unbeatable even by today's jet, they declare.

Utilization of what is otherwise wasted energy in the exhausts of piston-type engines gives this turbo-compound engine its efficiency. Three turbine mechanisms, operated by the exhaust gas, add extra power to the driving shaft of the plane, giving a speed increase of 50 miles an hour. They squeeze the otherwise wasted energy out of the gas, adding 25% in economy.

The new Constellation, now ready for flight, was constructed as a Navy R7V-1 transport, and will carry 106 passengers, 19 tons of freight, or 73 battle casualties on stretchers. A luxury commercial version with the same 3,250-horsepower turbo-compound power plants, built by Curtiss-Wright Corporation, will be ready for flight early next year. Twelve airlines have 69 of these transports on order, Lockheed officials state. The increased speeds made possible with turbo-compound engines will keep American planes competitive on all major airways until economical jet engines are developed.

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Weather maps describe the *atmosphere* only at the earth's surface.