

Katz said their routine use cannot be recommended. Neither can windpipe incisions called tracheotomy, or the surgical removal of the thyroid.

Doctors differ over whether patients with severe emphysema respond to corticosteroids. Certainly these chemicals should not be a first treatment, Dr. Katz said. Granting that the hormones can reduce inflammatory edema, and that they can overcome the effects of an unrecognized allergy responsible for bronchial spasm, he maintains that they can nevertheless cause a euphoric state of mind without having any specific action on the disease itself.

One doctor characterized the control of emphysema as being as complicated as a game of chess, compared with which tuberculosis treatment is an elementary game of checkers.

Low-grade bronchial infections are continuous in emphysema patients, but acute infections are also likely to recur. The only evidence of acute infection may be an increasing cough or shortness of breath, or a change in the material coughed up. Penicillin or an antibiotic that kills a number of organisms may be effective in controlling acute infections.

The two most frequent forerunners of emphysema are allergic asthma and

chronic infectious bronchitis. If these ailments persist, both of them will inevitably lead to emphysema.

One of the earliest symptoms of emphysema is wheezing. This is sometimes interpreted as asthma, and patients are often treated with antihistamines, usually without success. Or shortness of breath may be thought to be an indication of heart trouble, and is treated with rest, digitalis and diuretics, again unsuccessfully.

It is important to understand the meaning of a wheeze. Try blowing through a reed and watch how sound is produced. Only until the sides of the reed are compressed will there be sound. This is comparable to what happens in the bronchial tubes. When the interior is narrowed, either by bronchial spasm or loss of elasticity, the person wheezes. Considering the laws of probability, the sound of a wheeze may indicate emphysema.

• Science News, 89:246 April 9, 1966

MEDICINE

Stroke Causes Linked To Electrical Change

► CLOTTING that often leads to heart attacks, stroke and other serious cardiovascular conditions has been linked to a minute change in the electrical properties of blood vessel walls.

When the electrical charge of the vessel walls changes from negative to positive, blood accumulates and causes a clot, a symposium on vascular disease was told in Philadelphia.

Dr. Philip N. Sawyer of the State University of New York Downstate Medical Center, Brooklyn, said that the inner surface of blood vessel walls ordinarily has a negative electric charge, and that since blood cells also are charged negatively, cells and walls do not attract each other. It is only when the electrical charge of the vessel wall becomes positive, either naturally or because a current is applied, that blood is attracted to that portion carrying the positive charge.

By further understanding of this process, which follows basic laws of physics, Dr. Sawyer believes thrombosis in the blood vessels can be controlled.

Dr. Sawyer's research showed that metals such as magnesium and aluminum, because of their electrical properties, would be less apt than other metals to cause thrombosis when used to make artificial heart valves and other cardiovascular prosthetic devices.

A technique called direct current coagulation also resulted from the surgeon's investigations. In this technique, a direct current is used to bring about thrombosis where it is needed to stop bleeding. Dr. Sawyer said the method speeded blood clotting by as much as a thousand times and stopped uncontrollable bleeding.

The symposium was sponsored by Philadelphia's Albert Einstein Medical Center as a part of its centennial observance.

• Science News, 89:247 April 9, 1966

MEDICINE

Blood Flow to Brain Improved by Drug

► BLOOD FLOW to the brain can be improved by the drug nylidrin hydrochloride, New York University researchers reported.

The research implies that nylidrin (trade name: Arlidin), produced by U.S. Vitamin and Pharmaceutical Corporation, could eliminate to some degree the problem of decreased blood flow associated with cerebral vascular disease and senility.

The drug was given successfully by mouth and by injection to 16 youthful volunteers aged 18 to 31. Brain wave measurements and determination of the acidity or alkalinity of blood indicated the positive effects of nylidrin.

Nylidrin is indicated for disorders including night leg cramp, frost bite, arteriosclerosis obliterans in which the artery is clogged, and other conditions marked by inadequate blood flow.

• Science News, 89:247 April 9, 1966

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