

MEDICINE

Study Drug Reactions

Administering drugs, particularly antibiotics, steroids and tranquilizers, to patients can result in certain skin, psychological and systemic reactions that need more study.

► THE USE OF antibiotics, steroids and tranquilizers, in addition to helping many people, has also caused some skin, psychological and systemic reactions.

Skin eruption is one of the commonest reactions encountered during drug administration, Dr. Harold O. Perry of the Mayo Clinic told physicians attending the American Medical Association meeting in San Francisco.

In finding the cause of a skin reaction it may be more advisable to rely upon the past history of the drug's reaction on the patient, Dr. Perry said. The standard skin test for hypersensitivity to a drug may not reveal the trouble, he added. To duplicate the experience by introducing the suspected drug again is dangerous. In a case of this type, Dr. Perry suggested that the doctor "be satisfied with the partial proof" the historical evidence provides.

Steroids can cause salt retention and potassium depletion (both of which can result in gastrointestinal upset), undesirable central nervous system effects and tissue breakdown. These problems often become realities for patients who are given steroid drugs in large doses or for long periods, Dr. Laurence H. Kyle of Georgetown University

School of Medicine, Washington, D. C. said. The sex hormones and bile acids belong to the steroid group.

The most "worrisome" problem is that the adrenal glands will cease to function normally during drug administration. Then if a severe illness occurs, there will be insufficient adrenal hormone available to help the patient survive. Dr. Kyle recommended, on these grounds, that information regarding the use of steroids become an integral part of every patient's record.

Among the complications produced by tranquilizers are adverse behavioral effects, toxic effects on the central and autonomic nervous system, allergic reactions, and metabolic or endocrine effects, Dr. Leo E. Hollister, Veterans Administration Hospital, Palo Alto, Calif., said. However, their benefits in carefully selected patients outweigh the dangers, he added.

Lung Cancer Detection

► A NEW LUNG CANCER detecting technique is so simple that it can be made a routine part of a general physical examination.

The technique consists of an aerosol unit that was also designed for medicinal

inhalation at home for the relief of bronchial asthma and emphysema, both respiratory diseases.

Special feature of the aerosol unit, called a Nebu-halent, is a built-in heater thermostat that warms a salt spray solution to a maintained temperature of 125 degrees Fahrenheit.

The heated solution is sprayed with the "touch-action" unit into the bronchi, causing the patient to cough up secretions that can be examined for cancer cells.

The unit was developed by Drs. Alvan L. Barach, Gustav J. Beck and H. A. Bickerman of Columbia-Presbyterian Medical Center, New York. Dr. Beck described it to scientists at the Medical Association meeting.

The technique is effective in detecting lung cancer when diagnosis is not suspected or is in doubt due to "inadequate X-ray evidence or the patient's inability to raise sputum spontaneously," Dr. Beck explained.

The New York physicians have examined about 250 persons, including normal volunteers and carcinoma suspects. Of these, 40 have been diagnosed as having cancer, with later confirmation of diagnosis by other means.

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MEDICINE

Radioactive Gas Spots Holes in Hearts

► RADIOACTIVE gas, iodine isotope 131, breathed by patients can tell whether there are holes in the heart wall between right and left chambers. Blood samples are taken from arteries and veins every five seconds in the method developed by Drs. Robert Case, Paul Keating and H. L. Sachs, St. Luke's Hospital, New York, and reported to the New York Heart Association.

Science News Letter, July 5, 1958

CHEMISTRY

Antidote Perfected For Lethal Gas

► A PROTECTING ANTIDOTE for the nerve gas called sarin has been developed.

While it has not been tested on humans, the antidote has successfully blocked the lethal action of sarin in mice, a biochemist reported at the medicinal chemistry symposium of the American Chemical Society meeting in Madison, Wis.

The antidote consists of a combination of PAD, pyridine-2-aldoxime dodeciodide, and the closely related PAM, pyridine-2-aldoxime methiodide, Dr. Irwin B. Wilson of Columbia University's College of Physicians and Surgeons said.

Nerve gases are lethal because they either paralyze the muscles that control breathing, or they attack the central nervous system.

Administration of PAD and PAM to mice, before exposure to the gas, resulted in complete survival, while the use of either compound alone yielded almost no survivors, Dr. Wilson reported.

If the new combination successfully blocks the lethal effects of the gas in humans, it will greatly inhibit the use of sarin as a weapon.

Science News Letter, July 5, 1958



VERTICAL RISING JET—For the first time in aviation history a jet-powered airplane, the experimental Bell X-14, has risen straight up from a runway in the conventional horizontal pattern and returned to the starting point to hover and land vertically. Two jet engines provide more than 3,500 pounds of thrust to lift the airplane vertically and propel it forward. Jet thrust is deflected downward for take-off by venetian-blind type vanes installed behind the engine. Compressed air nozzles at wing tips and tail provide directional control.