

## MEDICINE

**Normal Tissue May Be Spared During X-Ray**

► THE LONG-SOUGHT GOAL of radiating the diseased area while sparing normal tissues during cancer treatment is well within sight.

Dr. Anthony Green, director of radiotherapy, Royal Northern Hospital, London, reported a cobalt tracking project in *Nature*, 207:1311, 1965, that "describes a new and accurate method of treating malignant disease by radiation." Just as surgery has its complications and rare fatal accidents, Dr. Green said, so do a proportion of radiation cases.

"A high standard of accuracy in treatment does much to reduce injuries," Dr. Green said. "The new method has been the logical sequence of development over the past 25 years."

A new high-quality apparatus made by T.E.M. Instruments, Ltd., of Crawley, England, made possible through public contributions, will soon be placed in a specially constructed room, allowing the cobalt tracking project to get under way in earnest. The project will enable the spread of malignant disease from the primary growth along the lymph node chain to be irradiated with greater accuracy than ever before.

The expected spread of malignancy in lymph nodes, that is, the "track" is part of an exhibit at the International Congress of Radiology in Rome.

This spread is based on information from surgeons of vast operative experience, agreed upon by six senior United Kingdom radiotherapists, Dr. Green said. "Such spread is in contrast to the post-mortem findings, when the disease is spread far and wide."

Another new apparatus, aimed at the "accurate determination of percentage retention of radioactive vapors when inhaled by human subjects" is also reported in *Nature*, 207:1310, 1965, by Dr. D. J. Morgan of the health physics and medical division, Atomic Energy Research Establishment, Harwell, England.

• *Science News Letter*, 88:221 October 2, 1965

## BIOCHEMISTRY

**Two New Experimental TB Drugs Effective**

► TWO OF THE MOST promising new drugs being tried against tuberculosis, especially when TB germs have become resistant to older drugs, are Capreomycin and Ethambutol, a New York Academy of Sciences meeting was told in New York.

Capreomycin, produced experimentally by Eli Lilly and Co., Indianapolis, and Ethambutol, manufactured also experimentally by the Lederle Laboratories, Pearl River, N.Y., have been tested on patients as well as animals with usually good results, not only in the manufacturers' laboratories but by researchers in the United States and overseas.

In Tokyo, for example, the Japan Research Committee for Chemotherapy of Tuberculosis, has investigated Capreomycin in comparison with streptomycin as a treat-

ment by injection, and found it to be an excellent drug. Dr. Imasato Donomae gave the Committee report.

Ethambutol has been used for more than four years in more than 150 cases of advanced pulmonary tuberculosis, Dr. Marjorie M. Pyle of the Chicago State Tuberculosis Sanitarium, Chicago, Ill., reported. The Sanitarium considers it "a major contribution to the chemotherapy of tuberculosis."

A combination of isoniazid, or INH, and para-aminosalicylic acid, called PAS for short, is usually considered one of the best treatments for TB, but patients sometimes cannot tolerate one or the other of these drugs, or the germs become resistant.

Dr. Shirley H. Ferebee and her collaborators at the U.S. Public Health Service, for example, have shown that Ethambutol as a substitute for PAS was equally effective. Dr. Ferebee reported the work she has done with Drs. B. E. Doster and F. J. Murray.

The fact that a three-day meeting has discussed these two drugs, still not licensed by the Food and Drug Administration, and in the investigational stage for years, shows the tremendous energy directed into the development of a single drug before it is placed on the market. Side effects and individual reactions are studied continuously before and after a drug is marketed.

Tuberculosis remains the world's number one infection problem. Even in the United States, more than 10,000 deaths a year are reported and more than 50,000 new cases are reported annually.

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**Nature Note****Moon Jellyfish**

► THE MOON JELLYFISH, *Aurelia aurita*, is the most common of these strange gelatinous animals that inhabit the sea and the briny estuaries.

The milky saucers, eight to ten inches across, drift lazily just below the water surface like a pale full moon. They can swim feebly by rhythmic contractions of the saucer or bell, but largely these jellyfish are at the mercy of currents and waves.

Jellyfish are members of the phylum Coelenterata, which is a group of animals possessing a hollow body cavity. The gelatinous saucer, which in some species can be six to eight feet in diameter, is at least 94% water, and can contain strengthening fibers that are very firm.

They usually have a four-sided symmetry, with four stomach pouches and four reproductive organs which often show through the translucent body. There are often four long frilly mouth lobes extending from the under side of the body. Along the scalloped edge, long tentacles stream in multiples of four or sometimes of indefinite numbers. These tentacles have stinging cells with which small sea animals are numbed or killed and then eaten by the jellyfish.

Scientists call the jellyfish "medusa," a name suggested by the mythological maiden, the Gorgon Medusa, whose snaky tresses turned anyone into stone who looked upon them.

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