

X-Rays Contribute To Medicine

Medicine

Radiologists See Movies of Lungs at Work

Great increase in the number of cases "cured" of bone cancer in recent years is attributed by Dr. Joseph Colt Bloodgood of Baltimore to X-rays and to popular education in their value. Dr. Bloodgood and Dr. Russell L. Haden of Kansas City have been awarded the gold medal of the Radiological Society of North America for their work with X-rays.

"Before the discovery of the X-rays there was rarely if ever a verified cancer of bone cured by amputation," Dr. Bloodgood said. "Since the discovery of the X-rays and up to 1921 the actual cures of cancer of bone, in the records of the Johns Hopkins Hospital Surgical Pathological Laboratory, were four per cent. Today, now that more people know the importance of an immediate examination after the slightest warning or injury to a bone, the cures have increased to thirty-five per cent."

Over one-third of the persons treated at hospitals for bone cancer since 1921 have lived for at least five years without any recurrence of the disease. Apparently they have been "cured."

The warnings of cancer of the bone are not different from the warnings of troubles of the bone that are not cancer, Dr. Bloodgood said. Pain or discomfort of some kind, swelling or slight loss of function should be investigated immediately and X-ray examination should be part of the investigation. This is particularly important after accidents or injuries, even if no break in the bone is apparent. Slight breaks and injuries of bones can be disclosed by the X-ray which, if undiscovered and untreated, might lead to serious trouble later on, Dr. Bloodgood warned.

The X-ray plays an important part in locating the source of infection causing many cases of chronic infective rheumatism, Dr. Laurence H. Mayers of Chicago told members of the Radiological Society of North America at their recent meeting in Toronto.

"Chronic arthritis is far more easily prevented than cured. It is always preceded by infection, usually a focus of infection. This focus is usually accessible for surgical removal and in most cases may be located by radiographs, as in the teeth and accessory sinuses," Dr. Mayers stated.

A normal human lung rids itself of foreign material by means of a peculiar rhythmic motion of the bronchial tubes, Dr. H. A. Jarre of Detroit reported. This discovery was made with the aid of a new X-ray motion picture camera.

"The pictures we take are slow motion because the organic movement in the body will only tolerate a limited amount of X-ray energy," Dr. Jarre explained. The new machine is to be called the Cin-Ex Camera. The pictures are taken at the rate of one to four seconds, while the regular picture camera takes sixteen exposures per second.

Dr. Jarre reported that he and his associates discovered a peculiar rhythmic motion phenomenon of the bronchial tubes during breathing "so that in a normal human lung foreign materials and excretions as well as air are expelled by these movements alone."

"Cancer and ulcer of the stomach are the two most common diseases encountered in this organ and are easily recognized by means of the X-rays," Dr. Maurice Feldman, associate professor at the University of Maryland Medical School, declared at the meeting.

"When the disease has already resulted in destruction of tissue, the condition may be easily recognized," said Dr. Feldman, speaking of stomach cancer. "But this is often a late stage of the disease.

"X-rays offer the earliest positive diagnostic signs of cancer, which can in no other way be determined. The necessity of a thorough X-ray examination is extremely essential in every case of digestive disturbance which is not promptly relieved by ordinary remedies."

X-rays and radium are daily saving the lives of many babies who have enlarged thymus glands, Dr. Howard P. Doub of the Henry Ford Hospital, Detroit, and Dr. H. B. Podlasky of Milwaukee stated.

"When a baby strangles or becomes blue or has a hoarseness or a cough, it may have enlarged thymus," they said. "The thymus gland, located just above the heart, which functions as an aid to the growth and development of the child, may become a dangerous organ and cause abnormality or death due to asphyxiation if it de-

velops into an abnormally large thymus. This is especially dangerous to children and frequently causes death. It may also cause a fatality during operative treatment while the child is under anesthesia. The gland, however may be reduced and made harmless by the use of X-ray and radium treatment."

Dr. Podlasky, with his colleague, Dr. G. W. Stevens, studied the chests and thymus glands of 750 babies.

"One-third of all new-born infants show signs of enlarged thymus," Dr. Stevens reported. "In this study only about seven and one-half per cent. of the cases showing enlarged thymus glands showed symptoms sufficient to cause recognition of the enlarged thymus by a physician. This is important as in a symptomless child having enlarged thymus serious results might follow operation under anesthesia. It has been definitely shown that the X-ray produces very beneficial results upon these enlarged thymus cases and there is definite relief to be expected from X-ray treatment."

Experiments to toughen the skin or decrease its sensitivity to X-rays, which are being made in the hope of increasing the amount of radiation used for treating tumors of the body, were described by Dr. Edith H. Quimby and Dr. George T. Pack of New York City.

In treating deep tumors by radiation, either X-ray or radium, the rays must pass through skin and normal tissues before reaching the diseased ones, Dr. Quimby explained. The amount that can be used in treatment is limited by the amount the skin will tolerate. This amount is frequently not enough to have the desired effect on the tumor.

The effects produced on the skin with a constant quantity of radiation were estimated in 100 tests. It was found that it took one-third more radiation to produce a mild effect on the skin when both hard and soft X-rays and hard and soft radium rays were used in equal proportions than when either one alone was used. This demonstrated a real increase in skin tolerance which could not be explained on purely physical grounds, Drs. Quimby and Pack concluded.

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