

MEDICINE

X-Rays Endanger Fetus

More accurate methods of measuring radiation intensity has raised some questions as to the wisdom of taking X-rays except when absolutely necessary.

► **STUDIES IN PROGRESS** show the incidence of leukemia and other malignant diseases in early childhood may be increased by the diagnostic use of pelvic X-rays late in pregnancy.

This was reported to the American Medical Association meeting in San Francisco by Dr. Edward L. King of the School of Medicine, Tulane University, New Orleans, La.

"The disastrous effect of heavy X-ray doses of the fetus in early pregnancy," Dr. King said, "has long been known, but it was thought that the dosage of diagnostic X-ray, especially when used late in pregnancy, was so small that no damaging effects were produced."

Dr. King pointed out the development of more accurate methods of measuring the intensity of radiation and recent studies on the effects of radiation have given rise to doubts as to the wisdom of unrestricted use of X-ray examination of the pelvis.

A study made in England, he said, showed that in children under ten years of age who were dying of leukemia or other malignancies, the percentage subjected to prenatal abdominal radiation was 13.3% as compared to 7.4% for the control group.

Similar results were obtained in a Louisiana study in which 27.3% of the leukemia cases and 29.5% of the other malignancies in children under ten years had been exposed to prenatal X-rays as compared to 18.4% in the healthy controls of the same age.

In the English study several groups of twins were found with one affected child and one healthy child. It is believed, the Louisiana scientist said, that the diseased twin was in front of the other when the X-ray was made.

It is also possible, Dr. King said, that diagnostic irradiation may produce mutations in the genes of the mother or the child, the effect of which may not be manifest for many generations.

Dr. King and his associates at Tulane, Drs. Isadore Dyer, John A. King and Millcent J. Hoffman, conclude "careful clinical studies of the pelvis will suffice in 70% to 80% of obstetrical patients" and therefore routine X-ray examination of the pelvis is not recommended.

X-Ray Program Urged

► **REPLACEMENT** of compulsory X-ray programs with the tuberculin skin test in areas that experience a low incidence of cases has been urged by three Federal agencies.

The skin test was recommended as a substitute for chest X-rays in students and

school employees by the Public Health Service, the Office of Education and the Children's Bureau.

Chest X-rays could then be limited to those whose skin tests were positive.

The Public Health Service some months ago recommended that X-ray surveys be conducted on a selective rather than on a mass or communitywide basis.

Tuberculosis case-finding is an important factor in school and college health programs. In the light of changing conditions, however, the value of mass X-ray programs should be weighed against costs and radiation exposure.

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MEDICINE

New Enzyme Discovery Linked to Gouty Arthritis

► **A NEW ENZYME** has been isolated that appears to play an important role in the causative process of gout and gouty arthritis.

The enzyme, called uric acid riboside phosphorylase, has been found to act upon a body chemical, uric acid riboside. The enzyme splits this chemical into two components, a type of body sugar and free uric acid. A high level of free uric acid has long been associated with gout, Dr. Leonard Laster, National Institute of Arthritis and Metabolic Diseases, Bethesda, Md., said.

"The existence of the new enzyme implies there may be an alternate pathway for uric acid metabolism, producing free uric acid from uric acid riboside," Dr. Laster reported to the American Rheumatism Association meeting in San Francisco.

Gout is a poorly understood metabolic disease often accompanied by acute attacks of an especially painful form of arthritis. The disease usually affects the joints of the feet and brings on attacks of inflammation and extreme pain.

It is caused by an inherited disorder of metabolism, or body chemistry, in which excessive amounts of uric acid appear in the blood. Some of this uric acid crystallizes out in the form of urate salts which are deposited in various parts of the body and may produce marked damage to body tissues, leading to the chronic form of the disease.

The splitting action of the new enzyme is inhibited by the old remedy for gout, colchicine. However, the exact role colchicine has been playing in relieving the pain of gouty arthritis has never been found. This latest discovery may prove to be the stepping stone toward an explanation of colchicine's action.

Science News Letter, July 5, 1958

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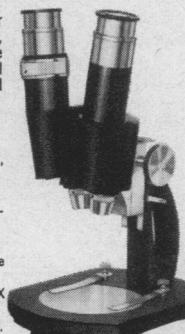
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