

ACTION OF HUMAN TESTICULAR IRRADIATION ON GONADOTROPIN LEVELS.

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Single doses of testicular x-ray irradiation ranging from 8 to 600r were applied to normal human volunteers. Graded responses in sperm count, histological appearance of the testes and the rate of recovery resulted.

Urine and plasma were collected prior to and at varying times after irradiation. Urinary total gonadotropins, interstitial cell-stimulating hormone (ICSH) and follicle stimulating hormone (FSH) were determined using bioassay procedures. Plasma FSH and ICSH were determined by radioimmunoassay. ICSH levels in urine did not change, however all other gonadotropin levels including plasma ICSH were significantly and unequivocally elevated. Plasma ICSH increased from the control range (3.5 to 5.6 mU/ml; 1mU equals 20.83 μ g of LER 907) to twice the control values by the fifth week after irradiation and to three times the control values by two months after x-ray. FSH values, both urinary and plasma, increased as much as four-fold after irradiation depending upon the amount of germinal depletion seen. Gonadotropin levels were inversely related to sperm count and testicular histology.

REPOSITORY: DOE-RICHLAND
COLLECTION: GSS HUMAN TEST SUBJECTS STUDIES
PRISONER STUDY

BOX: 046264

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