

depleted from the tissue. In the DLT, after acute or subacute treatments, benzene did not induce any significant increase in lethal mutations. These results can be explained by different sensitivities of the used in vivo tests, showing metaphase analysis to be more sensitive than the DLT in recognizing this clastogenic agent at germ-cell level.

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The effect of different cytostatic treatments on the persistence of chromosomal aberrations of testicular tumor patients and on their offspring

A total of 150 testicular tumor patients were examined at different times after the termination of four different treatment modalities. Testicular cancer patients treated with surgery alone had a four times higher aberrant cell frequency (1.96) than matched controls (0.48%). This kind of "genetic instability" may play a role further in the events of tumorigenesis. When comparing different chemotherapeutic and/or radiation regimens and plotting aberrant cell frequency as a function of sampling time after the termination of treatment, only aberrations induced by vinblastine, cisplatin and bleomycin (VPB) adjuvant therapy and by megavoltage radiation decreased with time.

The cell killing and the overdispersion of chromosome anomalies were most of all manifested in patients receiving VPB + AVP (adriamycin, etoposide, cisplatin) treatment or this combination together with radiotherapy.

On the basis of these data we established that we need more than 8-10 years follow-up of patients for the evaluation of the role of the persistence of chromosomal aberrations in the development of second tumors.

Out of 150 testicular cancer patients 22 who were treated only with chemotherapy fathered 24 children, 3 during and 21 after termination of

treatment. Congenital anomalies, malignancies and chromosomal aberrations were examined in the offspring. The observed values did not differ from expected ones, which suggests that the presence of a tumor and the application of chemotherapy during and after conception should not constitute a reason for advising the discontinuation of pregnancy.

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Radiation-induced dominant cataract mutations in golden hamsters and mice

Dominant cataracts in mice are one of the genetic endpoints that have been used for the estimation of genetic risk in man. This type of mutation can be easily detected in different mammalian species including man. Interspecific comparisons among experimental animals may provide more information about the possibility of extrapolating from one species to another. Male hamsters (*Mesocricetus auratus*) and male (102 × C3H)F₁ mice (*Mus musculus*) were irradiated with 2 × 2 Gy of γ -rays given 24 h apart. They were permanently mated to untreated females. To detect cataracts, eyes of the living F₁ offspring were examined with the slit lamp microscope. Inheritance of the observed anomalies was tested in outcrosses of the carriers to normal animals. Three mutations were found among 11,150 offspring of mice and also three mutations among 9,588 offspring of hamsters. All mutations originated from irradiated spermatogonia. Thus, radiation-induced dominant cataracts occur with about the same frequency in both rodent species. These results, together with those obtained with ethylnitrosourea, suggest no differences between species in the sensitivity to mutation induction.

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