

- PGJ2 cytotoxicity on NCG cells. *Prostaglandins* 1986;32:517-525.
26. Gáti I, Bergström M, Muhr C, Carlsson J. Effects of the PAF-analogue and antagonist CV-6209 on cultured human glioma cell lines. *Prost Leuk Essent Fatty Acids* 1991;43:103-110.
27. Gáti I, Bergström M, Csóka K, Muhr C, Carlsson J. Effects of the two 5-lipoxygenase inhibitors AA-863 and U-60,257 on human glioma cell lines. *Prost Leuk Essent Fatty Acids* 1990;40:117-124.
28. Ford-Hutchinson AW. Leukotrienes. Biological properties, evidence for specific receptor sites and evidence for the involvement of leukotrienes in pathological situations. In: Lands WEM, ed. *Biochemistry of arachidonic acid metabolism*. Boston, MA: Martinus Nijhoff Publishing; 1985:269-285.
29. Berdel WE, Greiner E, Fink U, et al. Cytotoxic effects of alkyl-lysophospholipids in human brain tumor cells. *Oncology* 1984;41:140-145.

SELF-STUDY TEST

Radiobiology and Radiation Protection

Questions are taken from the *Nuclear Medicine Self-Study Program I*, published by The Society of Nuclear Medicine

DIRECTIONS

The following items consist of a heading followed by numbered options related to that heading. Select those options you think are true and those that you think are false. Answers may be found on page 2280.

The anticipated effects on an individual of a whole-body radiation dose of 100 rads include:

1. a significant reduction in immune responsiveness
2. permanent sterility
3. a lifetime risk of about 1% for radiation-induced fatal cancers
4. a high likelihood of genetic effects in his or her children
5. epilation and bleeding of gums

True statements concerning nonstochastic effects of ionizing radiation include:

6. The severity of the effect varies with dose.
7. The probability of the effect varies with dose.
8. There often is a threshold dose.
9. The aim of radiation protection should be to prevent these effects.
10. They are limited by cell killing.

The genetically significant dose (GSD)

11. is the dose of radiation each person receives from birth to death.
12. is the dose of radiation that can be shown to have led to a genetic death.
13. from medical exposure in the U.S. is approximately equal to that from background sources.

14. is an index of the presumed genetic impact of radiation exposure to the population.

True statements concerning the genetic "doubling dose" for radiation-induced genetic abnormalities include:

15. It is the amount of radiation that would be expected to add as many new mutations as occur spontaneously.
16. The higher the doubling dose, the greater the risk of mutations for a given amount of exposure.
17. A doubling dose administered to a population would produce twice the spontaneous number of mutations in the next generation.
18. It is the reciprocal of the relative mutation risk.
19. The BEIR 1980 estimate of a doubling dose of 50-250 rads was obtained from human epidemiologic studies.

True statements concerning the genetic effects of radiation include:

20. Mutations are usually harmful.
21. Genetic effects observed in the progeny of the A-bomb survivors provide the best estimate of human risk.
22. They appear to depend very little on the stage of germ cell development at irradiation.
23. They are independent of the rate of delivery of the radiation.
24. Their likelihood decreases as the time interval between irradiation and conception increases.

(continued on p. 2323)