ALKOXYGLYCEROLS AND THEIR USE IN RADIATION TREATMENT.

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SUMMARY

1. Alkoxyglycerols prevent, to a certain extent, leuco- and thrombocytopenia. This effect has been demonstrated in two ways:

a) The decrease in white cells and thrombocytes which usually occurs during radiation treatment is less pronounced if alkoxyglycerols are administered during this treatment.

b) If the white cell or thrombocyte count is already low due to irradiation or to some therapeutic chemicals, it has been possible to increase the number of these cells by the administration of alkoxyglycerols.

2. In experiments with irradiated rats, it has been shown that the alkoxyglycerols or their esters inhibit, to a certain extent, the decrease of both megacaryocytes and nucleated cells in the bone marrow, which usually occurs after irradiation.

3. The decrease of megacaryocytes is prevented more by selachyl alcohol than by batyl alcohol.

4. Both for the free alcohols and for the esters, the effect was found to be related to the quantity administered; it decreased above an optimal dosage.

5. Alkoxyglycerols do not only have an effect on the bone marrow, they also influence the growth of rats. When irradiated rats were prophylactically treated with alkoxyglycerols the increase in weight was higher than for the irradiated control group, which received no such treatment. As in the case of the megacaryocytes, the increase in weight was found to be related to the quantity administered and decreased above an optimal dosage.

6. Batyl alcohol has a greater effect on the growth of rats than does selachyl alcohol.

7. The damage caused by radiomimetics is also counterbalanced to some extent by alkoxyglycerols.

8. Alkoxyglycerols promote the growth of *L. lactis.*

9. The growth-promoting effect on *L. lactis* is greatest for batyl alcohol, followed by selachyl alcohol and chimyl alcohol.

10. The survival times for a group of 350 patients suffering from cancer of the uterine cervix increase with the total amount of alkoxyglycerols administered during the radiation treatment. The increase is observed for both 1-year and 5-year survivals.