ALKOXYGLYCEROLS IN CELL MEMBRANES STOP TUMOUR GROWTH?

Astrid Brohult, Johan Brohult, Sven Brohult och Ingemar Joelsson

From the Clinical Laboratory and the Department of Gynecology, Radiumhemmet, Stockholm, Sweden
The Department of Internal Medicine IV, Södersjukhuset, Stockholm, Sweden
The Royal Academy of Engineering Sciences, Stockholm, Sweden and
The Department of Obstetrics and Gynecology, University of Umeå, Umeå, Sweden

Alkoxyclycerols are present in small quantities in a number of natural sources. They are relatively abundant in bone marrow and in mother's milk. The general formula for the alkoxyclycerol is \( \text{CH}_2\text{OH} \cdot \text{CHOH} \cdot \text{CH}_2\text{OR} \), where \( R \) is a long-chain aliphatic radical (1).

Regression of tumour growth is observed for patients suffering from cancer in the uterine cervix when alkoxyclycerols are administered prophylactically before the radiation treatment (2). No regression is observed for the patients who received alkoxyclycerols only during this treatment, the prophylactically administration thus being of decisive significance.

In the human body the alkoxyclycerols are esterified with fatty acids of \( \text{C}_{16}-\text{C}_{18} \) atoms. A result of utmost importance is that these alkoxyclycerol esters have been found in tumour cells but not in normal cells (3). It is likely that the alkoxyclycerols or their esters will form liquid crystals thus giving a more rigid structure to the membrane, a structure which might reduce the possibility of the cell to divide.

References: