STUDY OF THE PROTECTOR EFFECT OF CAROTENOIDS, IN EXPERIMENTAL INDUCTED SARCOMAS

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SUMMARY

The porpoise of the rapport is to study the main steps of the pre-tumour changes of tissues under the protecting effect of some pigments from the group of carotenoids. To see the tumor development we tried to reproduce them in experimental animals with subcutaneous administrated dimethyl-benzanthracen (DMBA). We chose the following carotenoids pigments: cantaxanthin and rodoxanthin. For this experiment we used 20 mice, grouped in two lots. Group 1: 10 mice subcutaneous inoculated (s.c.) with 0,1 ml DMBA solution; orally they received, daily, 0,2 ml cantaxanthin (40 µg cantaxanthin /kgc/day). Group 2: 10 mice inoculated s.c. with 0,1 ml DMBA solution and they received orally, daily, 0,2 ml rodoxanthin (40 µg rodoxanthin /kgc). The pigments were dissolved in vegetal oil. There had been made 2 DMBA inoculations, at 1 month distance, in dorsal subcutaneous region. After 8 and 12 months from the first DMBA inoculation, some animals were sacrificed. There were realized necropsy and histopathology exams.

After 8 months of the first DMBA inoculation, after the sacrifices we have observed in lots, macro- and microscopic, pulmonary and hepatic proliferative lesions. Proliferative lesions probably appear because of immunosupresor effect of DMBA.

After 12 months of the first DMBA inoculation, after the sacrifices we have observed: in group 1, histopathologically, hepatic preneoplastic lesions. Animals from group 2 were in a poor condition. In one mouse from group 2 has appeard one tumour at right back leg. In lung were numerous metastases. Histopathologicaly: the primary tumour and the metastasis was diagnosticated as fibrosarcoma.

Depreciation of the general condition on group 2 mice and malignant tumour development, in one mouse from the group who received orally rodoxanthin denote fact that protector antitumoral effect of rodoxanthin is smaller than effect of cantaxanthin. The subjects that have received cantaxanthin have not appeared malign lesions. The fact that fibrosarcoma has developed in back right leg, although the mice was inoculated in dorsal region and hepatic preneoplastic demonstrate DMBA capacity to induct also tumors in other tissues than those from inoculation spot.