120. On Malignolipin. XI

Tumor-Resistance of Mice after the Injection of Malignolipin prior to Tumor-Inoculation

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Since it had been found that a specific antibody demonstrable in way of complement fixation reaction could be produced in rats by one or more subcutaneous injections of the ammonium salt of malignolipin, and since it had also been found that such a specific antibody against malignolipin caused Yoshida sarcoma cells to die out in vitro, further studies were made to determine the possibility of inducing tumor-resistance in normal mice by successive injections of malignolipin.

Normal male mice of ddS strain were injected subcutaneously with a certain amount of an authentic sample of the ammonium salt of malignolipin, which had been isolated from transplantable cancers of animals according to a method previously reported, and which was dissolved in a physiological saline solution. At the end of a certain period of time after the last injection, some of the mice were killed, and tested to determine whether the antibody against malignolipin had been produced. The others were inoculated intraperitoneally with a certain number of Ehrlich's ascites cancer cells. A control group of normal, untreated male mice of the same strain were inoculated with the same number of Ehrlich's cancer cells.

As shown in Table I, no significant difference was found between the average surviving days of the mice injected with malignolipin and those of the untreated control mice, although in the case of the

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** During the whole period of the treatment, mice showed no abnormality concerned to their general appearance, their appetite, and the increase in their body weight; It means that malignolipin causes apparently no harm in mice when injected subcutaneously, as noted in the preceding report.

former the production of the antibody against malignolipin was as-

certained.

But, in the case of the inoculation of solid tumors (Crocker's sarcoma 180 and NF sarcoma), the results were slightly different. As shown in Table II and the figure, the growth of the inoculated tumors in the mice injected with malignolipin prior to the inocula-

Table II. Average weight of tumors a week after the inoculation of Crocker's sarcoma 180

A tumor of about 2 mm × 2 mm × 1 mm of size inoculated subcutaneously.
In bracket; number of examined animals.

<table>
<thead>
<tr>
<th>Pretreatment</th>
<th>Average wet weight of tumors (mg)</th>
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<tr>
<td>Amount of malignolipin given (in mg)</td>
<td>Interval between the injection and the inoculation (in day)</td>
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<tr>
<td>0.2</td>
<td>7</td>
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tion suffered a marked suppression, particularly during a certain period after the inoculation, as compared with the case in which malignolipin had not been used.

In short, it was ascertained that the presence of the antibody against malignolipin, contrary to the expectation, caused no resistance to the growth of intraperitoneally inoculated Ehrlich’s ascites cancer cells, but that it exerted a marked suppression of the growth of subcutaneously inoculated malignant tumor cells. The results seem to indicate, on the one hand, that the elimination of malignolipin by
the antibody may cause the suppression of the growth of cancer cells, and to suggest, on the other hand, that a rapid contact of malignolipin with the antibody as in the case of Ehrlich's ascites cancer would induce a production of malignolipin.