Dynamics of improved sustained release agent

- Liposomal anti-tumor agent - -

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Abstract

The negative aspect of chemotherapy for cancer is the appearance of side effects which are mostly linked to the dosage of anti-tumor agents. It is clear that a decrease of dosage results in the decrease of anti-tumor activity. Besides searching for lymphatic architecture in the oral region, we have confirmed by using PIXE that it was possible to secure the concentration of anti-tumor agent in the tumor periphery, and also a transition of the agent to the regional lymph nodes when administered directly around tumor.

We also examined by a PIXE analysis that the concentration of anti-tumor agent were equally maintainable when administrated as a slow-release drug. This liposomal sustained release agent starts releasing immediately after injection. Therefore it was concerned to cause a delay in healing of wounds due to injection needle. We assumed a slowdown in releasing speed, when the liposomal sustained-release agent was enclosed by an additional non-cisplatin liposome coating.

In this experiment, we examined the extend of platinum accumulation in the regional lymph node of the tongue(submandibular lymph node) when the improved sustained release liposomal cisplatin was injected in the mouse tongue.

As a result, we were able to obtain the similar result to past our results. We think this sustained release agent is useful for cancer chemotherapy because we can select many kinds of anti-tumor agent.