Abstract Title

[Antitumor effect in mice of an organic germanium compound (Ge-132) when different administration methods are used].

Abstract Source:
Gan To Kagaku Ryoho. 1985 Dec;12(12):2345-51. PMID: 4073929

Abstract Author(s):
H Aso, E Shibuya, F Suzuki, T Nakamura, H Inoue, T Ebina, N Ishida

Abstract:
The antitumor effect of an organic germanium compound, carboxyethylgermanium sesquioxide (Ge-132), was examined in mice using two systems: one, the ascitic form of Ehrlich carcinoma in DDI mice, and the other, the solid form of Meth-A fibrosarcoma in BALB/c mice. In the mice with Ehrlich ascitic tumors, a remarkable prolongation in life span was observed after intraperitoneal (i.p.) or per oral (p.o.) administration of Ge-132 (300 mg/kg), but not after intravenous (i.v.) injection of the same compound. Following i.p. or p.o. administration, cytotoxic macrophages (Mø) were induced in the peritoneal cavity after 48 h. although this was not the case after i.v. injections. When the in vivo effect of these in vitro active Mø was examined after adoptive transfer to mice bearing Ehrlich ascitic tumor cells, a significant antitumor effect was noted. In the mice bearing solid Meth-A tumors, i.v. injections of Ge-132 (100 mg/kg) were found to inhibit tumor growth remarkably, although i.p. and p.o. administrations did not have the same result. This inhibitory effect of Ge-132 by i.v. administration was explained by the continued augmentation of NK activity in peripheral blood, which was followed by the induction of specific killer cells appearing in the spleen. When the mice which had recovered from Meth-A tumor growth, following i.v. injections of Ge-132, were challenged with the same tumor on day 30, all mice were able to tolerate the challenge, but nota challenge of RL male 1 tumor cells. These observations may indicate that the differing antitumor effects of Ge-132 produced when different administration methods are used can be explained by the variation in effector cells induced by such different administration routes.

Article Published Date : Dec 01, 1985
Study Type : Animal Study
Additional Links
Substances : Germanium : CK(12) : AC(7)
Diseases : Tumors : CK(205) : AC(120)
Pharmacological Actions : Antineoplastic Agents : CK(1158) : AC(639)