Clinical trial of adverse effect inhibition with glucosides of vitamin C and vitamin E in radiotherapy and chemotherapy

PURPOSE

To evaluate ascorbic acid glucoside (AsAG) and a-tocopherol monoglucoside (TMG) in phase I-II trial, as side effect inhibitor in radiotherapy and chemotherapy.

MATERIALS AND METHODS

(1) Radiotherapy: Patients with lumber spine or brain metastasis received 30Gy/10fr/ 2w.
(2) Chemotherapy: Patients of breast cancer or uterine cervix cancer, received chemotherapy such as paclitaxel or CDDP with individual protocols. Patients received orally 1.0mg/kg of TMG orally just after or 200mg/kg of AsAG 2~3 hours before each chemotherapy.
(3) Adverse effects were evaluated according to grading (G) score system with NCI-CTC ver.2.

RESULTS

Cases by radiotherapy

(1) A 56 y. o. male with lumber spine and brain metastasis of primary unknown cancer: He had felt G2 nausea after first 7 times radiotherapy of 3 Gy to lumber spine. Sever nausea was reduced by oral AsAG (200mg/kg) administration, 2 hours before the residual 3 times radiotherapy. He received radiotherapy of 3 Gy to whole brain, and felt sever nausea. It was prevented by oral AsAG(200mg/kg) 2 hours before the radiotherapy. No sever nausea was felt in residual 9 times radiotherapy.

(2) A 65 y. o. female with lumber spine metastasis of breast cancer: She had received 2 times radiotherapy of 3 Gy to lumber spine. She was suffered by frequent diarrhea (G3). Her severe diarrhea was reduced by oral administration of AsAG (200mg/kg), 2 hours before radiotherapy. No diarrhea was observed in 8 times of the residual radiotherapy.

Cases by Chemotherapy

(1) A 56 y. o. female with recurrent breast cancer, She felt nausea, loss of appetite, and insomnia owing to paclitaxel three times a month. Since she was given 50mg TMG capsule, after infusion of chemotherapy, these symptoms were reduced. The intake of TMG were done for half a year, we assured the effect against the adverse reaction.

(2) A 31 y. o. female with Uterine cervix cancer: She had received paclitaxel /carboplatin 3 times in a month with oral TMG(1.0g/kg) just after chemotherapy. No adverse effect such as nausea, insomnia and loss of appetite were observed in total 24 times of the chemotherapy for eight months.

(3) A 61 y. o. female with breast cancer: She had received paclitaxel chemotherapy and felt G2 nausea. She received AsAG (200mg/kg ) orally 2 hours before the chemotherapy, then nausea was not observed by this AsAG pre-treatment. After she received this pre–treatment of AsAG in this chemotherapy, 3 times in a month, 11 tomes in total, sever adverse effect was prevented. There was no drug related toxicity in every cases of radiotherapy or chemotherapy.

CONCLUSION

The oral administration of 200mg/kg of AsAG in advance or 1.0mg/kg TMG immediately after radiotherapy or chemotherapy prevented side effects, such as, severe nausea, or frequent diarrhea in cancer therapies. These water soluble Vitamins inhibit effectively the adverse effect of radiotherapy or chemotherapy.