International Workshop
Summaries of Lectures
Presented at the 2004 General Meeting
of the BioBran Study Conference

Regulation of the Defense Mechanism with Food

- Relationship between Tumor Dormant Therapy and Food Function -

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II. Special Lecture

Tumor Dormancy Therapy as a New Strategy for Cancer Therapy

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Therapeutic strategies for cancer treatment have been formulated with the aim of eliminating cancer. However, this has been accomplished only by using surgical treatment for the relatively early stage of cancer and treatment with anticancer agents for a few cancers such as leukemia. After the main objective of "elimination," the next goal is prolongation of life. There has been a misconception that the prolongation of life can only be achieved by reducing the size of the tumor. This led to the idea "make the tumor smaller with higher doses" in treatment with anticancer agents, and the maximal tolerated dose (MTD) alone was regarded as the standard for dosage. However, treatment even at the MTD is not particularly effective, is accompanied by severe adverse reactions, and has not been well accepted by many patients.

I thought that this obstacle could not be overcome without a change in the therapeutic strategy. Cancer does not cause death in humans until the tumor becomes large. If it does not become large, we do not die of cancer and we can coexist with the cancer. Thus, the target is to inhibit proliferation, not to reduce the size of the tumor.

I was able to clarify from the chronology of cancer that prolongation of life with anticancer agents is determined by how effectively they kill cancer cells and how long the effects continue, and was the first to demonstrate scientifically that prolongation of life can be attained without having to reduce the size of the cancer tumor (JNCI 87, 1995). MTD treatments disregard this "continuation."

MTD treatment also disregards individual differences in the optimal dose. The fact that there are individual differences in the optimal dose of anticancer agents is clear in the case of alcohol and has been demonstrated genetically.

I devised individualized maximal doses for anticancer drugs that allow ongoing treatment taking "continuation" and "individual differences" into consideration. The dose was individually set using the maximal adverse reactions that could be continuously tolerated as an indicator (grade 1 or 2). When the treatment was examined in subjects with pancreatic and gastric cancers, marked prolongation of life as well as a reduction in adverse reactions was noted for the prolonged treatment. The effects did not vary with dose. To confirm this, a nationwide clinical study into gastric cancer, pancreatic cancer, and malignant melanoma is being conducted.

Compared to conventional treatment with anticancer agents (MTD treatment), the therapy has several advantages including: 1. Safe, because of individual setting of the optimal dose, 2. Causes only mild adverse reactions and helps improve patient QOL because mild adverse reactions are used as an indicator, and 3. Requires no hospital admission, decreases the use of G-CSF, etc., and greatly reduces the medical costs.

The advent of tumor dormancy therapy, which attempts to inhibit proliferation rather than reduce tumor size, may bring more attention to therapies that have been discarded because these treatments could only effect a small reduction. The significance of functional foods such as BioBran may be hopefully clarified if examined from this angle.