

Cancer Prevention with Dietary Factors

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Summary

The major cause of death in Japan is now cancer. However, the age-adjusted death rate has been slightly decreasing over the last five years. In particular, that for stomach cancer is decreasing steadily, the value in 2000 being only half of that in 1970. Furthermore, the incidence has also been decreasing. It is also evident that the uterus cancer incidence is on the decrease. These facts indicate that efforts at primary and secondary prevention of neoplasia are achieving some success so that it is reasonable to consider that humans can conquer cancer.

Recently, it has been suggested that *H. pylori* is involved in stomach carcinogenesis, while recent animal studies have clarified that *H. Pylori* itself is not sufficient to induce stomach cancer, together with genotoxic agents, such as methyl nitrosourea, it functions as a tumor promoter. Furthermore, sodium chloride enhances its promotion activity. The Ministry of Health, Labour and Welfare in Japan recommends that daily intake of sodium chloride be less than 10 g, in the guideline of "Kenkou Nippon 21". Other various measures against *H. pylori*, including high-dose vitamin C intake and application of *Lactobacillus* as a probiotic are now on trial, in addition to treatment with antibiotics. Since 70-80% of Japanese people older than 40 years carry *H. pylori*, it is very important to suppress the adverse effects of the bacteria with dietary factors. Thus, we have a target in hand for prevention of stomach cancer. With the right measure, it can be expected that the stomach cancer incidence in Japan will decrease dramatically in the near future.

Prevention of cancers in other organs is also attainable. We are continuously exposed to carcinogenic agents and most healthy people would be expected to have pre-cancerous cells. It is therefore necessary to intake cancer preventive agents continuously and dietary factors can play important roles, since they are generally safe.

It is a high priority to identify preventive dietary factors and study them extensively from various aspects. In this special issue, antimutagenic effects of beer, SCE activity of reveratrol, cancer preventive effect of citrus juices, anti-mutagenic and anti-carcinogenic effect of white tea, and prevention by lactoferrin of various tumor development, including suppressing effect on HCV are introduced. Animal medium-term methods developed in Japan and the DNA microarray screening approach to characterized cancer preventive dietary factors are also introduced.