In Japan, green tea has been drunk for a long time. Because it can be drunk casually, many people love drinking it. If such green tea has an effect to prevent stomach cancer, it will be a convenient way to prevent the disease. It began to be said that green tea is effective in preventing cancer about over ten years ago. In 1988, Kono et al.\(^1\) conducted a case-control study on stomach cancer in Kita-Kyushu, and reported that drinking 10 or more cups of green tea per day was preventive for stomach cancer. Subsequently, animal experiments showed results supporting this, and additional studies were conducted. Some of these studies reported that green tea was preventive, but others found it was not. In 2001, Tsubono et al.\(^2\) reported a prospective study, conducted in Miyagi prefec-
Green Tea and Stomach Cancer

The present investigators involved, with the co-authorship of this paper, in the JACC Study and their affiliations are as follows: Dr. Akiko Tamakoshi (present chairman of the study group), Nagoya University Graduate School of Medicine; Dr. Mitsuru Morii, Sapporo Medical University School of Medicine; Dr. Yutaka Motohashi, Akita University School of Medicine; Dr. Ichiro Tsuji, Tohoku University Graduate School of Medicine; Dr. Yoshikazu Nakamura, Jichi Medical School; Dr. Hiroyasu Iso, Institute of Community Medicine, University of Tsukuba; Dr. Haruo Mikami, Chiba Cancer Center; Dr. Yutaka Inaba, Juntendo University School of Medicine; Dr. Yoshiharu Hoshiyama, University of Human Arts and Sciences; Dr. Hiroshi Suzuki, Niigata University School of Medicine; Dr. Hirohisa Shimizu, Gifu University School of Medicine; Dr. Hideaki Toyoshima, Nagoya University Graduate School of Medicine; Dr. Kenji Wakai, Aichi Cancer Center Research Institute; Dr. Shinkan Tokudome, Nagoya City University Graduate School of Medical Sciences; Dr. Yoshinori Ito, Fujita Health University School of Health Sciences; Dr. Shuji Hashimoto, Fujita Health University School of Medicine; Dr. Shogo Kituchi, Aichi Medical University School of Medicine; Dr. Akio Koizumi, Graduate...
### Table 1. Epidemiologic studies on green tea and stomach cancer/prospective studies.

| Tesis author          | Region                        | No. of cases with stomach cancer | No. of non-patients | Relative risk (95% confidence interval) | Conclusion                     |
|-----------------------|-------------------------------|----------------------------------|---------------------|----------------------------------------|---------------------------------|
| Galanis et al. (1998) | Japanese Hawaiians            | 108                              | 11,799              | 1.0 (reference)                        | No increase in risk              |
|                       |                               |                                  |                     | 1.3 (0.7-2.1)                         | No significant difference        |
|                       |                               |                                  |                     | 1.5 (0.9-2.3)                         |                                 |
|                       |                               |                                  |                     | P=0.10                                |                                 |
| Nakachi et al. (2000) | Japan (Saitama)               | 140                              | 8,421               | 1.0 (reference)                        | Risk reduction                   |
|                       |                               |                                  |                     |                                       | No significant difference        |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     | 0.7 (0.23-1.88)                       |                                 |
| Tsubono et al. (2001) | Japan (Miyagi)                | 419                              | 25,892              | 1.0 (reference)                        | No relation                      |
|                       |                               |                                  |                     | 1.1 (0.8-1.6)                         |                                 |
|                       |                               |                                  |                     | 1.0 (0.7-1.4)                         |                                 |
|                       |                               |                                  |                     | 1.2 (0.9-1.6)                         |                                 |
|                       |                               |                                  |                     | P=0.13                                |                                 |
| Nagano et al. (2001)  | Japan (Hiroshima/Nagasaki)    | 901                              | 37,639              | 1.0 (reference)                        | No relation                      |
|                       |                               |                                  |                     | 1.0 (0.82-1.2)                        |                                 |
|                       |                               |                                  |                     | 0.95 (0.76-1.2)                       |                                 |
|                       |                               |                                  |                     | P=0.56                                |                                 |
| Hoshiyama et al. (2002)| Japan (nationwide) (JACC Study)| Men                             | 240                 | 30,130                                | No relation                      |
|                       |                               |                                  |                     | 1.0 (reference)                        |                                 |
|                       |                               |                                  |                     | 1.6 (0.9-2.9)                         |                                 |
|                       |                               |                                  |                     | 1.1 (0.6-1.9)                         |                                 |
|                       |                               |                                  |                     | 1.1 (0.6-1.9)                         |                                 |
|                       |                               |                                  |                     | 1.0 (0.5-2.0)                         |                                 |
|                       |                               |                                  |                     | P=0.634                               |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
| Hoshiyama et al. (2004)| Japan (nationwide) (JACC Study)| Women                           | 119                 | 42,362                                | No relation                      |
|                       |                               |                                  |                     | 1.0 (reference)                        |                                 |
|                       |                               |                                  |                     | 1.1 (0.5-2.5)                         |                                 |
|                       |                               |                                  |                     | 1.0 (0.5-2.1)                         |                                 |
|                       |                               |                                  |                     | 0.8 (0.4-1.6)                         |                                 |
|                       |                               |                                  |                     | 0.7 (0.3-2.0)                         |                                 |
|                       |                               |                                  |                     | P=0.476                               |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
|                       |                               |                                  |                     |                                       |                                 |
School of Medicine and Faculty of Medicine, Kyoto University; Dr. Takashi Kawamura, Kyoto University Center for Student Health; Dr. Yoshiyuki Watanabe, Kyoto Prefectural University of Medicine Graduate School of Medical Science; Dr. Tsuneharu Miki, Graduate School of Medical Science, Kyoto Prefectural University of Medicine; Dr. Chigusa Date, Faculty of Human Environmental Sciences, Mukogawa Women's University; Dr. Kiyomi Sakata, Wakayama Medical University; Dr. Takayuki Nose, Tottori University Faculty of Medicine; Dr. Norihiko Hayakawa, Research Institute for Radiation Biology and Medicine, Hiroshima University; Dr. Takesumi Yoshimura, Fukuoka Institute of Health and Environmental Sciences; Dr. Akira Shibata, Kurume University School of Medicine; Dr. Naoyuki Okamoto, Kanagawa Cancer Center; Dr. Hideo Shio, Moriyama Municipal Hospital; Dr. Yoshiyuki Ohno, Asahi Rosai Hospital; Dr. Tomoyuki Kitagawa, Cancer Institute of the Japanese Foundation for Cancer Research; Dr. Toshio Kuroki, Gifu University; and Dr. Kazuo Tajima, Aichi Cancer Center Research Institute.

The authors sincerely express their appreciation to Dr. Kunio Aoki, Professor Emeritus, Nagoya University School of Medicine and the former chairman of the JACC Study, and Dr. Haruo Sugano, the former Director, Cancer Institute, Tokyo, who greatly contributed to the initiation of the JACC Study, and Dr. Yoshiyuki Ohno, Professor Emeritus, Nagoya University School of Medicine, who was the past chairman of the study. The authors also wish to thank Dr. Tomoyuki Kitagawa, Cancer Institute of the Japanese Foundation for Cancer Research and the former chairman of Grant-in-Aid for Scientific Research on Priority Area ‘Cancer’, for his full support of this study.

References

1. Kono S, Ikeda M, Tokudome S and Kuratsune M. A case-control study of gastric cancer and diet in northern Kyushu, Japan. Jpn J Cancer Res 1988; 79: 1067-74
2. Tsubono Y, Nishino Y, Komatsu S, Hsieh CC, Kamemura S, Tsuji I, et al. Green tea and the risk of gastric cancer in Japan. N Engl J Med 2001; 344: 632-6
3. Kono S. Green tea and gastric cancer in Japan. N Engl J Med 2001; 344: 1867-8
4. Hoshiyama Y, Kawaguchi T, Miura Y, Mizoue T, Tokui N, Yatsuha H, et al. A prospective study of stomach cancer death in relation to green tea consumption in Japan. Br J Cancer 2002; 87: 309-13.
5. Tajima K, Tominaga S. Dietary habits and gastro-intestinal cancers: a comparative case-control study of stomach cancer and large intestinal cancers in Nagoya, Japan. Jpn J Cancer Res 1985; 76: 705-16.
6. Lee HH, Wu HY, Chuang YC, Chang AS, Chao HH, Chen KY, et al. Epidemiologic characteristics and multiple risk factors of stomach cancer in Taiwan. Anticancer Res 1990; 10: 875-81.
7. Yu GP, Hsieh CC. Risk factors for stomach cancer: a population-based case-control study in Shanghai, China. Cancer Causes Control 1991; 2: 169-74.
8. Yu GP, Hsieh CC, Wang LY, Yu SZ, Li XL, Jin TH. Green tea consumption and risk of stomach cancer: a population-based case-control study in Shanghai, China. Cancer Causes Control 1995; 6: 532-8.
9. Ji BT, Chow WH, Yang G, McLaughlin JK, Gao RN, Zheng W, et al. The influence of cigarette smoking, alcohol, and green tea consumption on the risk of carcinoma of the cardia and distal stomach in Shanghai, China. Cancer 1996; 77: 2449-57.
10. Inoue M, Tajima K, Hirose K, Hamajima N, Takezaki T, Kuroishi T, et al. Tea and coffee consumption and the risk of digestive tract cancers: data from a comparative case-referent study in Japan. Cancer Causes Control 1998; 9: 209-16.
11. Setiawan VW, Zhang ZF, Yu GP, Lu QY, Li YL, Lu ML, et al. Protective effect of green tea on the risks of chronic gastritis and stomach cancer. Int J Cancer 2001; 92: 600-4.
12. Galanis DJ, Kolonel LN, Lee J, Nomura A. Intakes of selected foods and beverages and the incidence of gastric cancer among the Japanese residents of Hawaii: a prospective study. Int J Epidemiol 1998; 27: 173-80.
13. Nakachi K, Matsuyama S, Miyake S, Suganuma M, Imai K. Preventive effects of drinking green tea on cancer and cardiovascular disease: epidemiological evidence for multiple targeting prevention. Biofactors. 2000; 13: 49-54.
14. Nagano J, Kono S, Preston DL, Mabuchi K. A prospective study of green tea consumption and cancer incidence, Hiroshima and Nagasaki (Japan). Cancer Causes Control 2001; 12: 501-8.
15. Hoshiyama Y., Kawaguchi T., Miura Y., Mizoue T., Tokui N., Yatsuha H., et al. A nested case-control study of stomach cancer in relation to green tea consumption in Japan. Brit J Cancer 2004; 90: 135-8.