

Health-Care Center

Mikio Zeniya, *Professor and Director*
Masanobu Kaji, *Professor*
Masako Iwanaga, *Assistant Professor*

Takashi Wada, *Professor*
Hiroki Takahashi, *Assistant Professor*
Hiroko Nogi, *Assistant Professor*

General Summary

Our purpose is to prevent cancer, a lifestyle-related disease, at an early stage through the general health check (referred to in Japan as “*Ningen Dock*”). In 2015, we studied the correlation of hyperuricemia with lifestyle and the detection of fibrosis in patients with nonalcoholic fatty liver disease.

Research Activities

A healthy lifestyle often prevents hyperuricemia. Three simple and easily used healthy lifestyle mottoes have been proposed by Breslow, Morimoto, and Ikeda. We performed a study to determine which of the 3 mottoes is best able to prevent hyperuricemia. The effect of the score of each of the 3 healthy habits on the development of hyperuricemia was assessed with Cox-hazard regression analysis. The cumulative 6-year incidence of hyperuricemia was calculated and compared among the 3 healthy habits groups by means of the log-rank test adjusted for age in the present open retrospective cohort study. The subjects were 5,049 persons who had undergone medical checkups and responded to a self-administered questionnaire about the above healthy lifestyle habits. Hyperuricemia was defined by a serum uric acid level greater than 7.0 mg/dl in men and greater than 5.5 mg/dl in women or by treatment with antihyperuricemia agents during follow-up. For the Breslow and Morimoto habits, hyperuricemia was reduced only in men, but practicing Ikeda’s healthy habits significantly reduced the development of hyperuricemia in both men and women.

We investigated the distribution and characteristics of the fibrosis index based on four factors (FIB-4), which indicated liver fibrosis, in Japanese persons who had undergone comprehensive general health checkups and were identified as having nonalcoholic fatty liver disease. Of the 9,255 subjects who had undergone comprehensive general health checkups, 2,750 (29.8%) were found, on the basis of ultrasonographic findings, to have a mildly fatty liver or a fatty liver. After excluding subjects who consumed ≥ 150 g alcohol/week (818 subjects), subjects testing positive for hepatitis B surface antigens or hepatitis C virus antibodies (184 subjects), and subjects for whom data were insufficient (3 subjects), we investigated the FIB-4 indices in the remaining 1,745 subjects. In these patients, the cut-off index was low (< 1.30) in 1370 patients (78.5%), indeterminate (1.30–2.67) in 357 patients (20.5%), and high (> 2.67) in 18 patients (1.0%). The log FIB-4 index differed significantly between subjects with and without a mildly fatty liver or a fatty liver on ultrasonography among men (0.006 ± 0.43 and -0.092 ± 0.39 , $p < 0.001$), but not among women. The FIB-4 index must be calculated separately during medical checkups and evaluated in conjunction with ultrasonographic findings.

Publications

Torimoto-Sasai Y¹, Igarashi A², Wada T, Ogata Y¹, Yamamoto-Mitani N² (Tokyo Med Dent Univ, ²Univ Tokyo). Female family caregivers face a higher risk of hypertension and lowered estimated glomerular filtration rates: a cross-sectional, comparative study. *BMC Public Health*. 2015; **15**: 177.

Onji M, Zeniya M, Yamamoto K, Tsubouchi H. Autoimmune hepatitis: diagnosis and treatment guide in Japan, 2013. *Hepatol Res*. 2014; **44**: 368-70.

Zeniya M, Nakano M, Saeki C, Yokoyama K, Ishikawa T (Saiseikai Niigata Daini Hosp), Takaguchi K (Kagawa Pref Ctr Hosp), Takahashi H. Usefulness of combined application of double-filtration plasmapheresis and twice-daily injections of interferon- β in hemodialysis patients with hepatitis C virus genotype 1b infection and a high viral load. *Hepatol Res*. 2014; **44**: E257-60.

Wada T, Nakano T. Verification of the effectiveness of visual field testing in general medical

checkups, particularly in comparison to non-contact intraocular pressure testing. *Sogo Kenshin*. 2014; **41**: 513-7.

Wada T, Zeniya M. Background of the FIB-4 index in Japanese non-alcoholic fatty liver disease. *Intern Med*. 2015; **54**: 127-32.

Wada T, Hasegawa Y¹, Osaki T¹, Ban H¹ (Hitachi Co.). Among three sets of recommended healthy lifestyle habits, which one is most closely associated with prevention of hyperuricemia in Japanese? *Ningen Dock International*. 2015; **2**: 76-83.

Wada T, Kawasaki Y, Inaji J. Establishing borderline and at-risk regions for estimated skeletal muscle mass of legs determined with a body composition meter. *Ningen Dock International*. 2014; **2**: 14-8.

Zeniya M, Wada T. The therapeutic effect of UDCA is a factor in determining the prognosis of primary biliary cirrhosis. *J Gastroenterol*. 2014; **49**: 1438-9.