

alcohol intake was self-reported, some patients might have underreported their alcohol intakes. Some should possibly have been categorized as having alcoholic liver disease. (3) Similarly, because the diagnosis of NAFLD was based on a past history or ultrasound examination at the diagnosis of HCC, undiagnosed burn-out NASH patients were included in those unclassified, especially when not followed in clinics or hospitals. Based on the high proportion of those with lifestyle diseases and moderate drinkers, at least a majority of those unclassified would be related to chronic alcoholism, obesity, or both.

In conclusion, the proportion of HCC patients without chronic viral hepatitis in Japan is increasing rapidly. Most had lifestyle disease-related backgrounds, especially related to obesity. Narrowing down a high-risk population would be difficult because one-third of the patients were non-cirrhotic, and obesity, fatty liver, and diabetes are prevalent in Japan.

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Conflict of interest The authors declare that they have no conflict of interest.

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Appendix

The following investigators enrolled patients in the Inuyama NOBLESSE Study: Joji Toyota, Yoshiyasu Karino (Hokkaido P.W.F.A.C Sapporo-Kosei General Hospital, Sapporo); Kazuyuki Suzuki, Hidekatsu Kuroda (Iwate Medical University, Iwate); Yoshiyuki Ueno, Hisayoshi Watanabe (Yamagata University Faculty of Medicine, Yamagata); Yutaka Aoyagi, Hirokazu Kawai (Niigata University Graduate School of Medical and Dental Science, Niigata); Eiji Tanaka, Takefumi Kimura (Shinshu University School of Medicine, Matsumoto); Kendo Kiyosawa, Hiromitsu Mori (Nagano Red Cross Hospital, Nagano); Nobuyuki Enomoto (University of Yamanashi Faculty of Medicine, Chuo); Masao Omata, Hitoshi Mochizuki (Yamanashi Central Hospital, Kofu); Satoshi Mochida, Mie Inao (Saitama Medical University, Irumagun); Kunihiro Hino, Hiromi Hoshino (Delta Clinic, Tokorozawa); Masashi Mizokami, Kazumoto Murata (Kohnodai Hospital, National Center for Global Health and Medicine, Ichikawa); Osamu Yokosuka, Fumihiko Kanai

(Chiba University Graduate School of Medicine, Chiba); Ryosuke Tateishi, Kenichiro Enooku, Koji Uchino, Masaya Sato, Shintaro Kayaki, Tatsuya Minami, Shintaro Mikami, Naoto Fujiwara (University of Tokyo Graduate School of Medicine, Tokyo); Sumio Watanabe, Kazuyoshi Kon (Juntendo University, Tokyo); Michio Imawari, Junichi Eguchi (Showa University, Tokyo); Hajime Takikawa, Masaki Mikami (Teikyo University, Tokyo); Shunji Mishiro, Masahiro Arai (Toshiba General Hospital, Tokyo); Hiromitsu Kumada, Yusuke Kawamura (Department of Hepatology, Toranomon Hospital, Kawasaki); Namiki Izumi, Takanori Hosokawa (Musashino Red-Cross Hospital, Musashino); Mitsuhiko Moriyama, Jumpei Hayashi (Nihon University School of Medicine, Tokyo); Michihiro Suzuki, Kotaro Matsunaga (Kawasaki City Tama Hospital, Kawasaki); Katsuaki Tanaka, Manabu Morimoto (Yokohama City University Medical Center, Yokohama); Takafumi Ichida, Katsuharu Hirano (Juntendo University Shizuoka Hospital, Izunokuni); Yasuhiro Tanaka, Kei Fujiwara (Nagoya City University Graduate School of Medical Sciences, Nagoya); Takashi Kumada (Ogaki Municipal Hospital, Ogaki); Hisataka Moriwaki, Koji Takai (Gifu University Graduate School of Medicine, Gifu); Shuichi Kaneko, Masaaki Kitahara (Kanazawa University Graduate School of Medical Sciences, Kanazawa); Hiroshi Fukui, Masao Fujimoto (Nara Medical University, Kashihara); Yukio Osaki, Akihiro Nasu (Osaka Red Cross Hospital, Osaka); Takeshi Okanoue, Toshihide Shima (Saiseikai Suita Hospital, Suita); Toshihito Seki, Rinako Kawanura (Kansai Medical University Takii Hospital, Moriguchi); Masatoshi Kudo, Yasunori Minami (Kinki University School of Medicine, Osaka-Sayama); Tetsuo Takehara, Takayuki Yakushijin (Osaka University Graduate School of Medicine, Suita); Michio Kato, Seiji Morioka (Minami Wakayama Medical Center, Tanabe); Shuhei Nishiguchi, Hironori Tanaka (Hyogo College of Medicine, Nishinomiya); Keisuke Hino, Yasuyuki Tomiyama (Kawasaki Medical School, Kurashiki); Kazuhide Yamamoto, Kazuhiro Nouse (Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama); Kazuaki Chayama, Hiroshi Aikata (Hisoshima University Graduate School of Biomedical Sciences, Hiroshima); Isao Sakaida, Makoto Segawa (Yamaguchi University Graduate School of Medicine, Ube); Kiwamu Okita, Akira Kato (Shimonoseki Kohsei Hospital, Shimonoseki); Yoshikazu Murawaki, Naoto Maeda (Tottori University Faculty of Medicine, Yonago); Morikazu Onji, Yoichi Hiasa (Ehime University Graduate School of Medicine, Tōon); Michio Sata, Takumi Kawaguchi (Kurume University School of Medicine, Kurume); Masaru Harada, Michihiko Shibata (University of Occupational and Environmental Health, Kitakyushu); Hideyuki Nomura (Shin-Kokura Hospital, Kokura); Shotaro

Sakisaka, Tetsuro Sohda (Fukuoka University Faculty of Medicine, Fukuoka); Masataka Seike, Koichi Honda (Oita University Faculty of Medicine, Yufu); Hiroshi Yatsuhashi, Shigemune Bekki (National Hospital Organization Nagasaki Medical Center, Omura); Kazuhiko Nakao, Naota Taura (Nagasaki University Graduate School of Biomedical Sciences, Nagasaki); Shigetoshi Fujiyama, Yoshihiro Ohuchida (Kumamoto Shinto General Hospital, Kumamoto); Yutaka Sasaki, Motohiko Tanaka (Kumamoto University Graduate School of Medicine, Kumamoto); Hirohito Tsubouchi, Tsutomu Tamai (Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima).

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