Emerging Strategies for the Management of Hepatocellular Carcinoma

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The 4th International Kyoto Liver Cancer Symposium (4th IKLS) was recently held in Kyoto. The event, attended by 350 participants, focused on the management of hepatocellular carcinoma (HCC) and was, like its predecessor meetings, a resounding success.

The IKLS has an auspicious history. It started in 2005 as a biannual event for discussing recent progress in the management of HCC. The 1st IKLS was held on Awaji Island, Kobe in 2005 in conjunction with the 4th Single Topic Conference sponsored by the Japan Society of Hepatology (JSH) and focused on ‘Hepatocellular Carcinoma: International Consensus and Controversies’. Details of the session were published as a supplementary issue of *Hepatology Research* (vol. 37, 2007). The 2nd IKLS was held in Kobe in 2007. The main theme of this meeting was ‘Recent Progress in Hepatocellular Carcinoma 2007’ and details were published in *Oncology* (vol. 72, suppl. 1, 2007). The 3rd IKLS, held in 2009 in conjunction with the International Liver Cancer Association (ILCA) and the 45th Annual Conference of the JSH, had as its main theme ‘From Prevention to Molecular Targeted Therapy’, with a summary of the discussions published in *Oncology* (vol. 78, suppl. 1, 2010). Hepatologists, surgeons, radiologists, pathologists and basic researchers from all over the world who attended these IKLS meetings have helped make the meetings, with their unique topics, landmarks in HCC research and practice.

To continue the success of previous symposiums, the topic for the 4th IKLS was selected as ‘Emerging Strategies to HCC’, with attention being paid to the emerging topic of molecular targeted therapy in this field. This theme was chosen given that most of the world’s HCC cases (80%) occur in Asian countries and there is an urgent need to create a global consensus for developing surveillance, diagnostic and treatment strategies in the region. The 4th IKLS was planned to disseminate the latest knowledge in HCC management among an international audience.

The 4th IKLS was held in Kyoto on June 7–8, 2014 (Congress President: Prof. Masatoshi Kudo) in conjunction with the 50th Liver Cancer Study Group of Japan (LCSGJ) Congress (Congress President: Prof. Masatoshi Kudo). Several HCC experts from around the world were invited to this academic meeting (table 1). On the first day of the event, during session I entitled ‘Surveillance of HCC’ [1, 2], attendees debated whether or not Sonazoid™ is also useful for surveillance during contrast ultrasound examination or whether tumor markers are required, and whether the surveillance period for patients with liver cirrhosis should be shortened. During session II entitled ‘Diagnosis of Pathological Early HCC’, the pathology in early HCC was discussed [3], with presenters from various countries explaining the clear usefulness of gadolinium-ethoxybenzyl-diethylenetriamine pentaacetic acid mag-

Table 1. Invited speakers and chairs at the 4th IKLS

Western physicians	Non-Japanese Asian physicians	Japanese physicians	
1 Luigi Bolondi (Bologna)	1 Yee Chao (Taipei)	1 Yasuaki Arai (Tokyo)	30 Takamichi Murakami (Osaka)
2 Brian I. Carr (Bari)	2 Pei-Jer Chen (Taipei)	2 Shigeki Arai (Shizuoka)	31 Yasushi Nagata (Hiroshima)
3 Laura Crocetti (Pisa)	3 Jason Chia-Hsien Cheng (Seoul)	3 Shunichi Ariizumi (Tokyo)	32 Hiroaki Nagano (Osaka)
4 Richard S. Finn (Los Angeles)	4 Young-Hwa Chung (Seoul)	4 Junji Furuse (Tokyo)	33 Masayuki Nakano (Kanagawa)
5 Peter R. Galle (Mainz)	5 Byung Ihn Choi (Seoul)	5 Etsuro Hatano (Kyoto)	34 Osamu Nakashima (Fukuoka)
6 Rita Golfieri (Bologna)	6 Moon Seok Choi (Seoul)	6 Takafumi Ichida (Kanagawa)	35 Naoshi Nishida (Osaka)
7 Josep M. Llovet (Barcelona/New York)	7 Pierce K.H. Chow (Singapore)	7 Tomoaki Ichikawa (Yamanashi)	36 Kazuto Nishio (Osaka)
8 Markus Peck-Radosavljevic (Vienna)	8 GuoHong Han (Xi'an)	8 Hiroko Iijima (Hyogo)	37 Kazushi Numata (Kanagawa)
9 Fabio Piscaglia (Bologna)	9 Kwang-Hyub Han (Seoul)	9 Kenji Ikeda (Tokyo)	38 Shuntaro Obi (Tokyo)
10 Jean-Luc Raoul (Marseille)	10 Shiu-Feng Huang (Zhunan)	10 Masafumi Ikeda (Chiba)	39 Hiroko Oka (Osaka)
11 Tania Roskams (Leuven)	11 Chih-Hung Hsu (Taipei)	11 Yasuharu Imai (Osaka)	40 Toshiyuki Okumura (Ibaraki)
12 Myron E. Schwartz (New York)	12 Shin Hwang (Seoul)	12 Hiroshi Imamura (Tokyo)	41 Takuji Okusaka (Tokyo)
13 Morris Sherman (Toronto)	13 Jae Young Jang (Seoul)	13 Satoru Imura (Tokushima)	42 Yukio Osaki (Osaka)
14 Andrew X. Zhu (Boston)	14 Do Young Kim (Seoul)	14 Tatsuo Inoue (Osaka)	43 Michie Sakamoto (Tokyo)
	15 Jeong Min Lee (Seoul)	15 Namiki Izumi (Tokyo)	44 Toshiharu Sakurai (Osaka)
	16 Shi-Ming Lin (Taipei/Taoyuan)	16 Toshimi Kaido (Kyoto)	45 Yutaka Sasaki (Kumamoto)
	17 Ming-De Lu (Guangzhou/Beijing)	17 Shuichi Kaneko (Ishikawa)	46 Shuichiro Shiina (Tokyo)
	18 Hee Chul Park (Seoul)	18 Seiji Kawasaki (Tokyo)	47 Ken Shirabe (Fukuoka)
	19 Young Nyun Park (Seoul)	19 Soo Ryang Kim (Hyogo)	48 Yasuhiko Sugawara (Tokyo)
	20 Mi-Suk Park (Seoul)	20 Tomomi Kogiso (Tokyo)	49 Hironori Tanaka (Hyogo)
	21 Joong-Won Park (Goyang)	21 Kazuhiko Koike (Tokyo)	50 Masatoshi Tanaka (Fukuoka)
	22 Ronnie T. Poon (Hong Kong)	22 Fukuo Kondo (Tokyo)	51 Shinji Tanaka (Tokyo)
	23 Jinsil Seong (Seoul)	23 Yonson Ku (Hyogo)	52 Ryosuke Tateishi (Tokyo)
	24 Sheng-Long Ye (Shanghai)	24 Shoji Kubo (Osaka)	53 Takuji Torimura (Fukuoka)
	25 Jung-Hwan Yoon (Seoul)	25 Takashi Kumada (Gifu)	54 Kaoru Tsuchiya (Tokyo)
	26 Seung Kew Yoon (Seoul)	26 Masayuki Kurosaki (Tokyo/Yamanashi)	55 Shinji Uemoto (Kyoto)
		27 Koichi Matsuda (Tokyo)	56 Koichiro Yamakado (Mie)
		28 Osamu Matsui (Ishikawa)	57 Masakazu Yamamoto (Tokyo)
		29 Masashi Mizokami (Tokyo)	58 Taro Yamashita (Ishikawa)
			59 Hitoshi Yoshiji (Nara)

netic resonance imaging for the diagnosis of early HCC [4–7]. During session III entitled ‘Diagnostic Algorithm of HCC’ [8, 9], the topic for discussion was whether the American Association for the Study of Liver Diseases (AASLD) and the European Association for the Study of the Liver (EASL) guidelines should include contrast-enhanced ultrasonography. The Japanese diagnostic algorithm pertaining to hypervascular and hypovascular tumors in particular was then introduced. The South Korean diagnostic guideline was also explained. Discussion then moved to a new algorithm proposed by the JSH [10]. During session IV entitled ‘Pathologic Diversity of HCC’, the discussion topics were mixed pattern HCC and cancer stem cells [11, 12]. Subclasses in the classification of HCC were also discussed. Session V, ‘Controversial Issues in Surgical Treatment’, focused on controversial points during surgical techniques [13–16].

On the morning of the second day, four topics were discussed at the ‘Early Morning Breakfast Workshop’: (1)

‘Surgical Treatment’, (2) ‘Liver Transplantation’ [13, 17–20], (3) ‘Carcinogenesis, Genomics, Pathways, and Targets’, and (4) ‘Radiation Therapy’ [21, 22]. An intensive and extremely valuable discussion was conducted by specialists in the respective fields. Session VI focused on radiofrequency ablation (RFA). In this session, entitled ‘Controversial Issues in RFA: How to Obtain a Sufficient Safety Margin?’, differences between Japan and other countries in the technical aspects of RFA were discussed. In Japan, it is standard to perform RFA until 100% necrosis is achieved and a safety margin is obtained; in the United States and Europe, RFA is performed once and treatment effectiveness is evaluated 1 month later, so the necrosis rate is reported to be around 80%. Similar to Japan, extensive RFA procedures to obtain satisfactory safety margins are applied in Taiwan [23]. In addition, how a sufficient safety margin can be achieved with certainty was discussed in relation to the most recent fusion techniques from Japan. During session VII, on ‘Treat-

ment Strategies for Intermediate Stage HCC', discussion focused on the heterogeneous nature of intermediate stage HCC and on the outcomes of treatments for intermediate stage HCC, namely the surgical treatments, superselective transcatheter arterial chemoembolization (TACE) with use of Lipiodol, and TACE using drug-eluting beads, molecular targeted agents and molecular targeted agents combined with TACE (SPACE trial). The discussion topics of session VIII included 'How to Define TACE Failure/Refractoriness?' and the EASL definition [24] and the Korean definition were introduced. The Assessment for Retreatment with TACE (ART) score, a discontinuation rule for TACE, was also introduced. The session ended with a presentation of the LCSGJ's updated version of the JSH TACE failure/refractoriness criteria, and finally participants voted using a voting system on the best definition of TACE failure/refractoriness [10]. The definition put forward by the LCSGJ was agreed to be the best. This result may have been influenced by the fact that 60% or more of the participants were Japanese.

Session IX, 'How to Manage Advanced HCC with Vascular Invasion?', involved a discussion of reports on various treatment modalities, including resection, radiation therapy, hepatic arterial infusion chemotherapy [25], intra-arterial radiotherapy and systemic therapy. In session X, 'Predictive Biomarkers of Molecular Targeted Therapy for HCC', biomarkers were presented and discussed [26]. In the final session, session XI entitled 'Emerging Strategies and Novel Trials for Advanced HCC', reports were presented on newly introduced molecular targeted agents and ongoing trials.

The 4th IKLS, therefore, covered a wide range of topics important to the surveillance, diagnosis and treatment of HCC, and contributions from experts from around the world helped make this another valuable event in the field of HCC management.

In this special issue of *Digestive Diseases*, discussions held at the 4th IKLS are summarized. We believe this will be a valuable compilation for readers who specialize in liver cancer management.

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