

recurrence and mortality even after adjusting for other factors by multiple Cox proportional hazard regression model.

**Results:** The optimal hsCRP cut-off value was 0.08 mg/dL. Serum hsCRP was correlated to central obesity in addition to tumor burden and underlying liver dysfunction. The cumulative recurrence rates at 5 year in high and low hsCRP group were 90.1 and 82.3%, respectively ( $P=0.027$ ) and survival rates were 50.9% and 71.9%, respectively ( $P<0.001$ ). High hsCRP was an independent predictor for recurrence (hazard ratio [HR]: 1.37; 95% confidence interval [CI]: 1.07, 1.75;  $P=0.013$ ) and survival (HR: 1.64; 95% CI: 1.17, 2.30;  $P=0.004$ ).

**Conclusions:** Serum hsCRP is an independent predictor for recurrence and survival among patients with very early/early stage HCC. Central obesity may also link high hsCRP with poor prognosis.

#### P575

##### DIAGNOSTIC SIGNIFICANCE OF HEPATIC VENOUS PRESSURE GRADIENT IN THE PREDICTION OF HEPATOCELLULAR CARCINOMA

K.T. Suk, C.S. Bang, Y.S. Lee, Y.H. Lee, D.J. Kim. *Hallym University College of Medicine, Chuncheon, Korea, Republic of*  
E-mail: skt@yonsei.ac.kr

**Background and Aims:** Patients with chronic liver disease are at an increased risk of developing HCC. Portal hypertension based on HVPG has known to predict clinical outcomes. We evaluated diagnostic significance of the HVPG in the prediction of HCC in patients with chronic liver disease.

**Methods:** Between January 2006 and May 2013, a total of 1,002 patients with CLD who underwent HVPG measurement were prospectively enrolled. HVPG (mmHg) was sub-classified as HVPG-1 (HVPG  $\leq 6$ ), HVPG-2 ( $6 < \text{HVPG} \leq 10$ ), HVPG-3 ( $10 < \text{HVPG} \leq 12$ ), HVPG-4 ( $12 < \text{HVPG} \leq 20$ ), and HVPG-5 ( $20 < \text{HVPG}$ ). The association between different variables and the development of HCC over time was assessed.

**Results:** The mean developing times of HCC according to hemodynamic staging (HVPG-1, -2, -3, -4, -5) were  $89.0 \pm 0.5$ ,  $86.9 \pm 1.5$ ,  $82.3 \pm 3.3$ ,  $74.6 \pm 2.8$ , and  $63.1 \pm 4.7$  months, respectively ( $p < 0.001$ ). HVPG-5 ( $p < 0.001$ , OR 14.95), HVPG-3 ( $p = 0.003$ , OR 7.67), HVPG-4 ( $p = 0.001$ , OR 7.21), B-viral associated cirrhosis ( $p = 0.004$ , OR 3.943), and older age ( $p = 0.011$ , OR 1.04) were risk factors for the development of HCC. AUROCs of MELD score, Child-Pugh score, and HVPG were 0.659, 0.681, and 0.773, respectively, in the prediction of HCC. Sensitivity and specificity of HVPG in the prediction of HCC was 77% and 70% in 14 mmHg.

**Conclusions:** Increased HVPG score, B-viral associated cirrhosis, and older age are independent predictors of HCC development in patients with chronic liver disease.

#### P576

##### MANAGEMENT OF HYPOVASCULAR HYPOTENSE NODULES ON HEPATOBILIARY PHASE OF Gd-EOB-DTPA ENHANCED MRI

A. Sakamoto, R. Kita, H. Oku, R. Sada, M. Fukuhara, S. Marui, E. Iguchi, Y. Ohara, H. Takeda, S. Saito, N. Nishijima, A. Nasu, H. Nishikawa, H. Komekado, T. Kimura, Y. Osaki. *Gastroenterology and Hepatology, Osaka Red Cross Hospital, Osaka, Japan*  
E-mail: azusa-s@osaka-med.jrc.or.jp

**Background and Aims:** Since gadolinium ethoxybenzyl diethylene triamine pentaacetic acid (Gd-EOB-DTPA) was approved in Japan in 2008, many hypointense nodules on hepatobiliary phase of Gd-EOB-DTPA enhanced MRI have been detected in arterial hypovascular nodules.

**Aim:** To clarify which type of hypovascular nodules showing hypointensity on hepatobiliary phase of Gd-EOB-DTPA enhanced MRI should be followed up or treated.

**Methods:** Retrospective evaluation of 180 hypointense nodules on hepatobiliary phase of Gd-EOB-MRI obtained from 131 patients

with chronic liver disease between July 2008 and November 2011. Nodules were confirmed as hypovascular on CT during hepatic arteriography (CTHA) within about 2 months. 106 nodules were histologically examined. The natural course was observed in 115 nodules for  $>3$  months to determine hypervascularity.

**Results:** Mean nodule diameter was  $1.4 \pm 0.5$  cm. 86 (81.1%) of 106 histopathologically examined nodules were well-differentiated HCC, 7 (6.6%) were moderately-differentiated HCC, 5 (4.7%) were dysplastic and findings were non-specific in 8 (7.7%). 44 (38.3%) of the 115 nodules of which the natural course was observed became hypervascular. Multivariate Cox analysis associated tumor diameter  $\geq 1.3$  cm ( $p = 0.019$ , Hazard: 0.461, 95% CI: 0.242–0.879) and tumor doubling time of  $<520$  days ( $p < 0.001$ , Hazard: 4.702, 95% CI: 2.087–10.593) with development of hypervascularity.

**Conclusions:** About 90% of hypovascular hypointense nodules on hepatobiliary phase of Gd-EOB-MRI were histologically HCC. Incidence of hypervascular change was significantly higher among nodules with diameter  $\geq 1.3$  cm and doubling time  $<520$  days, suggesting that treatment is justified for such nodules.

#### P577

##### BENEFICIAL EFFECT OF MULTIDISCIPLINARY APPROACH ON SURVIVAL IN HEPATOCELLULAR CARCINOMA PATIENTS

H.T. Kani<sup>1</sup>, A. Siykhymbayev<sup>1</sup>, N. Demircan<sup>1</sup>, M. Banzragch<sup>2</sup>, E. Gunes Yegin<sup>2</sup>, E. Bicakci<sup>2</sup>, Y. Aydin<sup>2</sup>, R. Irmak<sup>2</sup>, D. Guney Duman<sup>2</sup>, P.F. Yumuk<sup>3</sup>, F. Dane<sup>3</sup>, N.S. Turhal<sup>3</sup>, N. Bekiroglu<sup>4</sup>, O.C. Ozdogan<sup>2</sup>.

<sup>1</sup>Internal Medicine, <sup>2</sup>Internal Medicine, Division of Gastroenterology, <sup>3</sup>Internal Medicine, Division of Medical Oncology, <sup>4</sup>Biostatistics and Medical Informatic, Marmara University, School of Medicine, Istanbul, Turkey

E-mail: osmanozdogan@yahoo.com

**Background and Aims:** Multidisciplinary approach to hepatocellular carcinoma (HCC) patients has been recommended at guidelines in order to provide best treatment practice. However there is no study that shows any survival benefit of this approach.

**Methods:** In 2010 we started to held decision meetings for HCC patients with the participants from gastroenterology, surgery, radiology and oncology. In this meetings we have scheduled treatment protocols and followed the patients by this protocols. Additionally we have constructed a database in which all demographic data, tumor stages, treatment protocols and survivals are included in two groups of before and after 2010, the year of multidisciplinary meetings started.

**Results:** One hundred sixty-two patients (F/M: 34/128), mean age  $64.4 \pm 9.6$  years, mean follow-up  $9.4 \pm 0.7$  months (1–40), have been included. There is no demographic difference between two groups. However BCLC A and C stages' rates were higher in group 2010–2013 ( $p = 0.047$ ). In group 2010–2013 there is a significant survival increase when compared with the group of 2007–2010 (mean survival:  $11.1 \pm 9.9$  months and  $7.4 \pm 7.4$  months respectively;  $p = 0.012$ ). This survival benefit was significant in substage analysis of survival, BCLC stage A ( $p = 0.051$ ) and stage B ( $p = 0.097$ ) in 2010–2013 groups.

**Conclusions:** In conclusion this data shows that multidisciplinary approach significantly yields survival benefit in patients with HCC, particularly in early HCC stages which has more possible cure rates. This beneficial effect is probably due to selection of the best treatment modalities by the multidisciplinary team.