Aims: The prognostic impact of sarcopenia has not been clearly demonstrated in patients newly diagnosed with hepatocellular carcinoma (HCC), especially those without symptoms. Methods: Area of skeletal muscle and abdominal fat were measured at L3 level of computed tomography scan in 132 patients newly diagnosed with HCC between Jan 2007 to Jun 2011. Sarcopenia was defined as L3 skeletal muscle index of ≤ 52.4 cm²/m² for male and ≤ 38.5 cm²/m² for female. Baseline data were analyzed to determine the effect of sarcopenia on overall survival (OS) using the univariate and Cox multivariate analyses in overall and propensity-score matched cohorts. The impact of sarcopenia in asymptomatic vs. symptomatic patients was subsequently evaluated. Results: Sarcopenic patients (32 out of 132) were older (65.3 vs. 57.0 years old) and had lower body mass index (21.0 vs. 24.0 kg/m²), total fat (55.7 vs. 68.0 cm²/m²), and subcutaneous fat (21.9 vs. 29.2 cm²/m²) area. The presence of sarcopenia dichotomized patients with regard to OS (median 41.2 vs. 13.8 months, P<0.001). Multivariate analysis found that sarcopenia (hazard ratio [HR], 2.15, P=0.008), alpha-fetoprotein (HR, 2.79, P=0.004), Child-Pugh stage (HR, 2.38, P=0.017), infiltrative tumor (HR, 2.29, P=0.021), and BCLC stage (P<0.001) were predictive of OS. In a propensity score-matched cohort, sarcopenia (HR, 5.50, P=0.027) was the only predictive factor. In particular, asymptomatic patients with sarcopenia had a poor OS than patients without sarcopenia (median 69.6 vs. 22.2 months, P<0.001), while no significant difference in symptomatic patients (median 17.2 vs. 9.7 months, P=0.26). Subdividing asymptomatic patients of BCLC A and B stages according to sarcopenia status improved the predictive ability of staging system (c-index, 0.87 vs. 0.67, P<0.001).

Conclusions: Sarcopenia is an independent prognostic factor in patients newly diagnosed with HCC, especially those without symptoms. Subdividing BCLC A and B stages according to sarcopenia status showed a better stratification.

Keywords: Sarcopenia, Hepatocellular carcinoma, Survival, Performance status

**PO - 063**

Prognostic Values of Inflammation and Immune-based Scores in Patients with Hepatocellular Carcinoma Undergo Transarterial Chemoembolization

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Aims: We investigated whether baseline inflammation and immune-based scores predict prognosis of hepatocellular carcinoma (HCC) patients treated with transarterial chemoembolization (TACE). Methods: A total of 615 consecutive patients with HCC who had undergone TACE as initial treatment were included from a prospective cohort. The systemic immune inflammation index (SII) defined as (platelet count × neutrophil/lymphocyte, neutrophil-lymphocyte ratio (NLR), platelet-lymphocyte ratio (PLR) were analyzed with regard to their associations with disease progression and survival. Results: All of the tested inflammation/immune-based scores were significantly associated with overall survival in the univariate analysis. In the multivariate analyses, SII levels were independent risk factors for poorer survival together with BCLC stage, serum AFP levels, maximum tumor size, and Child-Pugh score. The hazard ratio of death for each increase in SII level was 3.483 (95% confidence interval, 1.971-6.156; p<0.001). Furthermore, SII significantly improved discrimination function of BCLC stage in predicting overall survival. Conclusions: High baseline SII independently correlated with poorer OS in patients with HCC who underwent TACE.

Keywords: Hepatocellular carcinoma, Transarterial chemoembolization, Systemic immune-inflammation index, Prognosis

**PO - 064**

Plasma MicroRNA-21, 26a, and 29a as a Predictive Marker for Treatment Response Following Transarterial Chemoembolization in Patients with Hepatocellular Carcinoma

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Aims: We investigated the association between plasma microRNA-21, 26a, and 29a levels and the treatment outcomes following transarterial chemoembolization (TACE) in hepatocellular carcinoma (HCC) patients.

Methods: We included 198 HCC patients treated with TACE in the study; TACE refractoriness and liver transplantation (LT)-free survival were evaluated during follow-up. Pretreatment plasma microRNA-21, 26a, and 29a levels were assessed using quantitative real time polymerase chain reaction. Relative quantification of miR expression (fold change) was determined using the 2(-ΔΔCt) method.

Results: During the mean follow-up of 22.3 (range, 0.7-79) months, 118 (59.6%) patients exhibited TACE refractoriness. Multivariate analyses showed that tumor size (hazard ratio [HR], 2.43; 95% confidence interval [CI], 1.27-4.67; P = 0.007), macrovascular invasion (HR, 2.18; 95% CI, 1.28-3.72; P = 0.004), and high pretreatment alpha-fetoprotein level (>400 ng/ml; HR, 1.88; 95% CI 1.22-2.90; P = 0.004) can independently predict overall TACE refractoriness. Combination of microRNAs expression (microRNA-21 ≥2.5, microRNA-26a ≥1.5, and microRNA-29a <0.4) was associated with early TACE refractoriness (within 1 year; HR, 2.32; 95% CI, 1.08-4.99; P = 0.031), together with tumor size (HR, 4.62; 95% CI, 1.50-14.21; P = 0.008), and vascular invasion (HR, 3.80; 95% CI, 1.19-12.20; P = 0.025). MicroRNA-21, microRNA-26a, and microRNA-29a levels were not sig-