years was associated with a poor OS only in cirrhotic patients. HCC-C patients benefit more from antiviral therapy following curative hepatectomy compared with HCC-NC patients. Meanwhile, the clinical value of the biomarkers HIF-1α, HBx and HBx double mutations for predicting HCC prognosis was significantly different between these two groups.

**CONCLUSIONS:** There was a difference in tumor-related prognostic factors, effect of antiviral therapy on the post-hepatectomy and biomarkers between these two subgroups, indicating that subgroup analysis of the prognostic factors may achieve better management of HCC and HCC patients especially combined with liver cirrhosis should be given antiviral therapy.

### Predictors of Outcome in Patients With Neonatal Hepatitis

**Reodica Almida, MD, R. P. Urtula, MD, and M. E. R. Nolasco, MD**

**BACKGROUND:** Very few studies on neonatal hepatitis (NH) prognostication are available in Asia. This current research was undertaken to augment the lack of information locally.

**OBJECTIVES:** To determine factors that affect outcome in patients with NH.

**SUBJECTS AND METHODS:** All patients with jaundice before 4 months old, not associated with biliary obstruction, seen from July 2013 to February 2014 at a pediatric tertiary hospital in Quezon City, Philippines were recruited in this prospective cohort study. 3 visits were done 3 months apart where baseline data, nutritional status, complications, bilirubin, alanine amino transferase (ALT), international normalized ratio (INR) and albumin were evaluated to determine significant associations with poor outcome.

**RESULTS:** 50 subjects with NH participated in the study. The population had a slight male predominance, majority having idiopathic NH (88%). The 1st visit showed majority had malnutrition (56%), bilirubin levels >3 mg/dl (100%) ALT ≥3 times normal (70%), albumin >35 mg/dl (56%) and INR <1.5 (94%). 44% of the subjects had poor outcome by the 6th month follow-up with majority of complications coming from third spacing of fluids (73%), and gastrointestinal bleeding (59%). Age of onset of jaundice, bilirubin levels and ALT had no association with outcome. The factors that are significantly associated with complications and mortality are nutritional status, albumin, and INR.

**CONCLUSION:** The predominant cause of NH is idiopathic with a slight male predominance, and with a majority having malnutrition. Early laboratory results in NH show evidence of liver injury with impaired excretory function but intact synthetic liver capacity. The factors that are significantly associated with complications and mortality are severe malnutrition, low albumin and elevated INR. These factors could be used to determine which patients need closer monitoring in anticipation of complications as well as to develop a scoring system to predict NH prognosis.

### More Than 90% of Patients of Cirrhosis Have Vitamin D Deficiency: A Cross-section Study

**A. Matin, P. Tyagi, P. Sharma, N. Bansal, A. Kumar, and A. Arora**

**BACKGROUND:** The liver is one of the major organs involved in metabolism of vitamin D. Recent studies have demonstrated a very high prevalence of vitamin D deficiency and insufficiency in patients with cirrhosis.

**AIMS:** We aimed to evaluate serum 25-hydroxy vitamin D (25OHD) levels in patients with cirrhosis of varying severity.

**METHODS:** Serum levels of 25(OH)D3 were estimated in consecutive admitted patient of cirrhosis. A normal level of vitamin D was defined as a 25OHD concentration greater than 30 ng/mL, vitamin D insufficiency was defined as a 25OHD concentration of 20 to 30 ng/mL and vitamin D deficiency was defined as a 25OHD level less than 20 ng/mL. Patients already taking vitamin D supplementation were excluded.

**RESULTS:** Fifty-eight patients (median age 52.5 [range 18-74] yrs) were enrolled. The etiology of cirrhosis was alcohol in 43%, cryptogenic and NASH in 33%, viral in 22%, and autoimmune in 2%. Their Child-Turcotte-Pugh class was A (9%), B (41%) and C (50%). The median MELD score 17 (range 6-40). The median 25OHD level was 8 (range 4-36) ng/mL. Most patients (54, 93%) had vitamin D deficiency. Normal 25OHD level was found in only 2 patients (3.5%), while two patients (3.5%) had vitamin D insufficiency. There was no correlation between 25OHD levels and the etiology of cirrhosis or MELD scores. However, 25OHD levels were significantly lower in CTP class B&C than in CTP class A (P < .05).

**CONCLUSION:** Most patients of cirrhosis, irrespective of etiology, have vitamin D deficiency. The vitamin D levels further decreases as the severity of cirrhosis progresses from CTP class A to CTP class B&C. These patients may have increased risk of osteoporosis and fractures, and response to vitamin(D) supplementation should be further studied.

### Long-term Administration of Rifaximin Improves the Prognosis of Patients With Alcoholic Liver Disease: A Case-Control Study

**Sharma Richa, Sharma Vijay, and Mohit Chaturvedi**

**INTRODUCTION/OBJECTIVES:** Cirrhotic patients are predisposed to intestinal bacterial overgrowth with translocation of bacterial products which may deteriorate liver haemodynamics and increase the portal venous pressure. Studies from other centres have shown that intestinal decontamination with short-term administration of Rifaximin improves liver haemodynamics in patients with decompensated alcoholic liver disease.