the primary tumour. Finally, Receiver operating characteristics (ROC) curves were generated to confirm predicting the value of plasma-based miR148a in HCC.

Results Plasma-based miR-148a expression was significantly lower in 155 HCCs compared to 96 liver cirrhosis ($p < 0.01$) as well as 95 healthy control ($p < 0.01$). Upon removal of the primary HCC tumour, levels of plasma-based miR-148a increased significantly compared with their initial levels ($p < 0.0001$). The area under receiver operating characteristic (AUROC) curve for plasma-based miR-148a was 0.919, with a sensitivity of 89.6% and specificity of 89.0% for HCC patients compared with liver cirrhosis. In HCC with negative or less expressing AFP, the AUROC values of plasma-based miR148a were 0.949 with a sensitivity of 90.6% and specificity of 92.6%.

Conclusions Plasma-based miR-148a can be applied as a potential non-invasive biomarker for HCC screening, especially for HCC with negative or less expressing AFP, which can make up AFP deficiency in predicting HCC occurrence.

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PERFORMANCE OF NON-INVASIVE BLOOD PARAMETERS FOR DETECTING SIGNIFICANT LIVER FIBROSIS IN PATIENTS WITH CHRONIC HEPATITIS B

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Background Since liver biopsy is invasive and Fibroscan has limited availability, various non-invasive blood parameters need evaluation to find the most useful parameter for detection of significant fibrosis in patients with chronic hepatitis B (CHB).

Methods In this retrospective study, records of patients who underwent liver biopsy for treatment naive CHB, were evaluated to obtain various non-invasive blood parameters (AST-platelet ratio index [APRI], Fibrosis-4 [Fib-4], GGT-platelet ratio [GPR], GGT-to-albumin ratio [GAR]), in addition to Fibroscan, to detect significant fibrosis and compared these with fibrosis stage of liver biopsy.

Abstract IDDF2018-ABS-0133 Table 1

Parameter	Formula	N	AUROC	95% CI	P value	Best cut-off	PPV	NPV
APRI	(AST/ULN) * 100/Plt	107	0.687	0.533–0.840	0.030	0.935	33%	93%
Fib-4	(Age*AST)/(Plt*?ALT)	107	0.735	0.590–0.880	0.006	2.324	37%	93%
GPR	(GGT/ULN) * 100/Plt	91	0.727	0.577–0.876	0.015	0.444	28%	95%
GAR	GGT/Alb	90	0.688	0.516–0.860	0.037	17.848	35%	92%
Fibroscan	-	92	0.768	0.633–0.902	0.009	5.35	17%	100%

Results A total of 125 were included (median age 34 [range 11–82] years, 74% males). Most (83%) patients were HBeAg negative. Liver biopsy revealed nil/mild fibrosis (Ishak < 3) in 87% patients and significant fibrosis (Ishak ≥ 3) in 13% patients. Among non-invasive blood parameters, APRI and Fib-4 were available in 107 patients, GPR in 91, and GAR in 90. Fibroscan was available in 92 patients. All the blood parameters, as well as Fibroscan, were able to detect significant fibrosis significantly well ($p < 0.05$). All parameters had PPV $< 35\%$ but NPV above 92%. Fibroscan had the highest NPV (100%) at a cut-off < 5.35 kPa, and among the blood parameters, GPR had highest NPV (95%) at a cut-off < 0.444 (table 1).

Conclusions Non-invasive blood parameters (APRI, Fib-4, GPR, and GAR) with NPVs above 92% are excellent parameters for ruling-out significant fibrosis in patients with CHB. Among the blood parameter, GPR has the best NPV of 95% at a cut-off below 0.444 and should be used when Fibroscan is not available.

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LONGITUDINAL ASSESSMENT OF ALPHA-FETOPROTEIN, LECTIN-REACTIVE ALPHA-FETOPROTEIN, AND DES-GAMMA-CARBOXY PROTHROMBIN FOR THE EARLY DETECTION OF HEPATOCELLULAR CARCINOMA

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Background Few studies for biomarkers in hepatocellular carcinoma (HCC) have reported using prospectively collected longitudinal samples.

Methods Among 689 patients who participated to four randomised trials for cirrhosis and/or chronic hepatitis B, 42 HCC cases were diagnosed during follow up, and 168 controls were matched for age, sex, aetiology, cirrhosis, and duration of follow-up in a 1:4 ratio. Samples at the time of HCC diagnosis, months -6 , and month -12 were tested for alpha-fetoprotein (AFP), lectin-reactive AFP (AFP-L3), and des-gamma-carboxy prothrombin (DCP) in the HCC cases and controls.

Results Of 42 cases with HCC, 39 (93%) had cirrhosis, 36 (85.7%) had normal alanine aminotransferase, and 31 (73.8%) had single HCC < 2 cm (38 [90.5%] within Milan criteria). AFP and AFP-L3 started to increase from 6 months before diagnosis of HCC ($p < 0.05$), while remained unchanged in the controls. The area under the receiver operator characteristic curves (AUROCs) for AFP, AFP-L3, and DCP at month 0 were 0.77, 0.73, and 0.71, respectively. Combining AFP and AFP-L3 showed higher AUROC of 0.83 at HCC diagnosis, while including DCP did not further improve performance (AUROC, 0.86). With the optimal cutoff values (AFP, 5 ng/mL and AFP-L3, 4%), sensitivity and specificity of combined AFP and AFP-L3 were 79% and 87%, respectively.

Conclusions AFP and AFP-L3 increased from 6 months before the diagnosis of early-stage HCC. AFP and AFP-L3 combination showed better performance than single biomarkers. Adopting a cutoff value of AFP level at 5 ng/mL would significantly increase the sensitivity for HCC detection.