

Supplementary Materials

Expression of phosphatase and tensin homolog gene in hepatitis C virus induced hepatocellular carcinoma

Asmaa M. Hussein¹, Magdy M. Afifi², Ahmed A. Wardany¹, Haidi Karam-Allah Ramadan³, Noha Gaber⁴

¹ *Botany and Microbiology Department, Faculty of Science, Al-Azhar University, 71524 Assiut, Egypt.*

² *Department of Botany and Microbiology, Faculty of Science, Al-Azhar University, Nasr City 11884, Cairo, Egypt.*

³ *Department of Tropical Medicine and Gastroenterology, Faculty of Medicine, Assiut University, Assiut 71515, Egypt.*

⁴ *Department of Clinical Pathology, South Egypt Cancer Institute, Assiut University, Assiut, Egypt.*

Table S1. Sociodemographic data of the studied groups

	HCC group (n=50)	Control group (n=30)	<i>P</i> value
Age (years)	60.56 ± 10.34	56.80 ± 9.28	0.061
Sex			0.902
Male	34 (68.0%)	20 (66.6)	
Female	16 (32%)	10 (33.3%)	
Smoking	10 (33.3%)	3 (30%)	0.11
Comorbidity	27 (54%)	0.0	< 0.001

Data expressed as mean ± (SD), frequency (percentage). HCC: hepatocellular carcinoma

Table S2 Baseline laboratory data of the studied groups.

Parameters	Control group (n=30)	HCC group (n= 50)	Reference range	<i>P</i> value
Hemoglobin (mg/dl)	13.62 ± 0.82 13.8 (12-15)	12.34 ± 1.98 12.1 (9.4-16.6)	Male: 13.5-17.5 Female: 12.0-16.0	0.001
Leucocytes (103/ul)	7.2 (6.3-9.3)	5.95 (4-9.8)	4500 -11,000	< 0.001
Platelets (103/ul)	234.1 ± 31.02 223 (201-315)	164.96 ± 72.99 157.5 (45-435)	150,000 - 450,000	< 0.001
PT	13.5 (13.2-13.5)	14.4 (12-22.4)	11 -13.5 seconds	< 0.001
PC	100 (97.5-100)	78.5 (45.2-100)	85%-100%	< 0.001
INR	1 (1-1.02)	1.2 (1-1.71)	≤1.1	< 0.001
ALT (u/L)	22 (18-29)	36 (8-116)	4 - 36	< 0.001
AST (u/L)	17.5 (4.2-26)	37 (0.7-166)	8 - 33	< 0.001
ALP	32.5 (20-66)	109.2 (83-313)	44 - 147	< 0.001
Albumin (g/dl)	4.1 (3.8-4.3)	3.6 (3.1-12.1)	3.5 -5.5	0.928
Total Bilirubin (mg/dl)	0.8 (0.6-0.9)	1.2 (0.5-15.2)	0.1 - 1.2	< 0.001
Direct Bilirubin (mg/dl)	0.2 (0.2-0.7)	0.5 (0.2-7.7)	< 0.3	< 0.001
Urea (mg/dl)	25 (22-28)	31 (1.01-49.5)	10-50	0.004
Creatinine (mg/dl)	0.8 (0.7-0.9)	0.95 (0.6-1.45)	0.6-1.5	0.135
AFP (ng/dl)	5 (1-8)	65.4 (1-1000)	0-10	< 0.001

Data expressed as mean ± (SD), median (range). HCC: hepatocellular carcinoma; PT: prothrombin time; PT: prothrombin concentration; INR: international randomized ratio; ALT: alanine transaminase; AST: aspartate transaminase; ALP: alkaline phosphatase; AFP: alpha fetoprotein.

Table S3 Baseline clinical and radiological data of the patients studied.

Clinical data	
Jaundice	15 (30%)
Encephalopathy	2 (4%)
Radiological data	
Location of focal lesions	
Left lobe	15 (30%)
Right lobe	26 (52%)
Both lobes	9 (18%)
Number of focal lesions	2 (1-4)
Size of focal lesion (mm)	9 (0.78-41.54)
MELD score	7.8 (3.71-12.79)
Lymph node metastasis	22 (44%)
Portal vein thrombosis	11 (22%)
Ascites	15 (30%)
Child score	
A	33 (66%)
B	17 (34%)

Data expressed as frequency (percentage), median (range). MELD: model for end stage liver disease.

Table S4 Serum PTEN among studied patients based on Child class.

Child class	PTEN (Mean $\pm$ SD)
Class-A (n= 18)	0.90 $\pm$ 0.80
Class-B (n=22)	0.80 $\pm$ 0.99
Class-C (n=10)	0.55 $\pm$ 0.10
<i>P</i> 1	0.90
<i>P</i> 2	0.02
<i>P</i> 3	0.01

*P*1 compares between class-A and class B; *P*2 compares between class-A and class C; *P*3 compares between class B and class C.

Table S5 Accuracy of PTEN versus AFP in prediction HCC.

Indices	AFP	PTEN
Sensitivity	100%	94%
Specificity	52%	100%
Positive predictive value	53.4%	100%
Negative predictive value	100%	94%
Accuracy	69%	98%
Cutoff point	> 155	< 0.67
Area under curve	0.53	0.990

AFP: alpha fetoprotein

Table S6 Correlation of PTEN with other variables.

Parameters	<i>r</i> value	<i>P</i> value
PTEN with Age (years)	- 0.13	< 0.00
Hemoglobin (mg/dl)	0.69	< 0.001
Leucocytes (10 ³ /ul)	0.15	0.15
Platelets (10 ³ /ul)	0.19	0.10
INR	- 0.09	0.33
ALT (u/L)	- 0.01	0.45
AST (u/L)	- 0.09	0.87
Albumin (g/dl)	0.54	< 0.001
Bilirubin (mg/dl)	0.19	0.10
Urea (mg/dl)	- 0.07	0.50
Creatinine (mg/dl)	- 0.17	0.10
Number of focal lesions	0.11	0.34
Size of focal lesion (mm)	0.23	0.46
Potassium (mg/dl)	- 0.09	0.39
Alpha fetoprotein (ng/dl)	- 0.22	0.04
MELD score	- 0.49	< 0.001
Child score	- 0.51	< 0.001
Portal vein diameter (mm)	- 0.16	0.21
Splenic size (cm)	0.05	0.67

Data expressed as *r* value (strength of correlation). INR: international randomized ratio; ALT: alanine transaminase; AST: aspartate transaminase; MELD: model for end stage for liver disease.

Table S7 Factors predictive on HCC using multivariable logistic regression.

Variables	P-value	OR	95% confidence interval	
			Upper Level	Lower Level
MELD score	0.010	8.995	1.709	47.328
Platelets	0.090	0.984	0.967	1.002
High PTEN	0.012	0.006	0.0001	0.335

MELD: model for end stage liver disease.