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ALPHA FETOPROTEIN SERUM LEVELS INFLUENCE BY HBsAg AND ANTI HCV FOR HEPATOCELLULAR CARCINOMA DIAGNOSIS WITH CHRONIC LIVER DISEASE PATIENTS

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Abstract:

Virological status was not found to affect the efficacy of (AFP) α-fetoprotein as a marker of hepatocellular carcinoma in patients with chronic liver disease.

Objective: *To know the influence of serum of serum a-fetoprotein for Hepatocellular carcinoma diagnosis.*

Place and Duration: *The study was performed in the Gastroenterology and Hepatology Department of Nishter Hospital Multan for the period of one year from January 2016 to January 2017.*

Methods*: One hundred and seventy HCC patients and 170 CLD patients were included in the study in a matched case control study for age, gender, HBsAg / anti-HCV, CLD status, specificity, Sensitivity, negative (NPV) and positive (PPV predictive values were calculated. NPV and PPV were assessed for 3 HCC additional prevalences (6, 11 and 20%).*

Results: *The best discriminant AFP level was 17 ng / ml. A 21 ng / ml value (above for HCC should be investigated) had an sensitivity equivalent to 62.0% versus 60.0% and 89.4% versus 89.6%specificity. 20 ng / ml PPV was 85.0%, but the tumor fell to 26.1% with a incidence of 5%. 70% NPV and increased to 98.07% with a incidence of 5%. In different PPV groups of patients who are infected vary from 81.0% to 91.0%, with a prevalence of 5% to 16.9 ± 35.0%. In uninfected patients, 100% PPV with any HCC incidence. NPV vary from 58.90% to 72.90%, with a prevalence of 5% upto 97.0 ± 97.99%.*

Conclusions: *In patients with CLD, monitoring of AFP does not involve many HCCs, and malignancy increases possibility in most of the patients. Its beneficial and is not greatly effected by the CLD-responsible infectious disease. Elevation of AFP is a sign of HCC in uninfected patients.*

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INTRODUCTION:

The most common cancers in humans is Hepatocellular carcinoma (HCC), especially in chronic liver disease (CLD) patients. For effective treatments early diagnosis may be important for the treatment of unknown neoplasms. In patients who are high-risk, this target is achieved through surveillance. Serial programs of abdominal ultrasonography and casting based on a-fetoprotein (AFP) serum test. Recent proofs has shown that the fucosylated AFP fraction may lead to a significant increase in total PFA [4 ± 7], the availability of this test is limited to some laboratories. On the other hand, des-gamma-carboxyprothrombin, another HCC marketer on the market, has a high sensitivity to cancers that are higher to AFP alone in high HCC . For this reason, AFP is a universal pathway for patients with high-risk HCC in practice clinically. In the endemic regions of AFP, HCC appears to be less beneficial than HBsAg-negative HBsAg-negative leading to many false positives. This analysis has not been shown in the population of Caucasian in which some HCC features may differ from endemic regions . The observation of HCC in patients hepatitis C virus (HCV) infection is more frequently related to a higher AFP than those in HBsAg carriers shown in other studies However, this limit has not been proved. For this reason, the effect of status of virological on the AFP diagnostic accuracy in the screening of HCC is largely unstable.

The best serum AFP cut-off value in this case control study to isolate non-HCC EPC patients and assess whether infections modulate the safety of PFA for HBV and HCV.

PATIENTS AND METHODS:

Clinical records include ectopic liver levels, hereditary diseases, HBsAg retrospectively, hepatocellular carcinoma (HCC) and primary biliary cirrhosis. In HCC patients who have antibodies against HCV virus, AFP and hepatic disease sclerosing cholangitis. Two hundred and ten cases met these criteria. HBsAg , Cirrhosis / chronic hepatitis and HCV 170 patients (135 men and 35 women) under the age, gender, EPC (cirrhosis / chronic hepatitis) within the same 6 years can participate with the same 170 EPC controls. In control patients, HCC presence was exerted by HSK-developed ultrasonography and patients for the next 6 months. histological studies were based on cytologic HCC diagnosis or 128 patients, although the rest were clinically confirmed by pictures or autopsy. 132 patients who underwent cirrhosis were supported by biopsy and portal hypertension and / or endoscopy and ultrasonography and clinical and laboratory features were reported. According to liver histology diagnosis of chronic hepatitis or obrozis. Hepatic (alkaline phosphatase, serum bilirubin, g-glutamyl transpeptidase , alanine aminotransferase , prothrombin activity (PT) and albumin function were checked using kits commercially available. Marker Radioimmunoassay HBV or test enzyme immunoassay. Clinical use of anti-HCV ELISA AFP The experiments performed following the standard AFP experiments performed in Agha Khan Labortories were used in Karachi cut analysis II values:

The study provided the ROC characteristic curve suggested values of 21 ng / mL values, 400, 200, 100 ng / mL ± HCC ² studies, respectively, for distinguishing values. The last two values are known as HCC in the presence of solid focal liver lesions used as immediate confirmation tests.

Severity of liver cirrhosis was assessed according to Child ± Pugh classification. Macroscopic pathology associated with HCC, solitary, multinodular, diffuse (non-specific tumor mass with an unspecified border), and massif compared to previous studies. A more detailed stratification was also used: 3 cm. Individual, 3 cm. Simple without epithelium (very small contiguous lesions), 3 cm. Stereophony and simple with common multinodule. The presence of portal vein or vena cava thrombosis was defined according to the imaging method of 64 patients undergoing angiography.

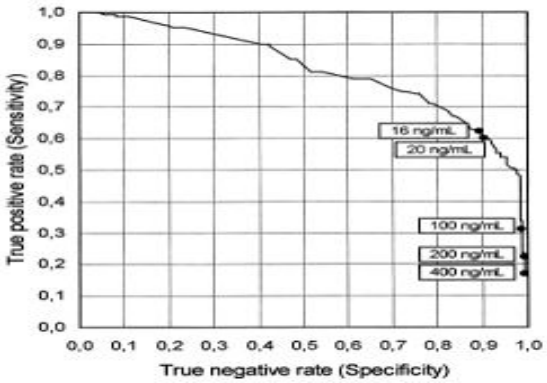
Statistical analysis

The results were Shown as median range and ± mean standard deviation (SD). The statistical assessment was performed using the Mann test (two alternative variables, Yacht Verification), Whitney U, X 2 test, McNemar ± test and signed-rank Wilcoxon pair and model-matched log-linear hierarchies. .The ROC curve and area corresponding under curve shows the accuracy of AFP in serum to differentiate patients with HCC and EPC. Nonparametric estimates under the curve area of ROC and the corresponding error of standard were applied. / LR (probability of negative real positive probability) (positive residual probability negative negative probability) The probability ratio obtained by the formula below is chosen as the maximum value (LR), depending on the positive and negative predictive values (VPP) and (NPV). These variables are only in the population; At the same time, three distributions of hepatocellular carcinoma were five, ten and twenty are not considered closer to the clinical situation. In a patient with HCC, the regression logistic was performed to check for AFP and 20 ng high for cancer, thrombosis

and vascular metastases, age, gender, ALT, virological status, stage to determine Child-Pugh class / categorical counts were as follows: HBsAg2 / anti-HCV1, HBsAg / anti -HCV2, HBsAg / anti-HCV1 and anti-HCV2/ HBsAg2 ; HCC Phase diffuse multinodular; no / yes vascular thrombosis, metastasis: no / yes by Edmondson grade, this model is not included to prevent a large drop in sample size. Further analysis with this variant was performed in accordance with Edmondson, who will be used in the evaluation group in the subgroup of patients, with those associated with the first elevated AFP (class I and II and III '± IV ±) in the two classes. All evaluations of statistical were done with SPSS version 11.0 on computer. A small value of 0.05 for two-tailed P values was considered significant statistically.

RESULTS:

The average age was 61.2 ± 9.0 HCC years, and the control group was 60.0 ± 9.2 years. HCC Multinomial 63, 18 common and intense HCC single in 5 patients 3, 5, 3 cm, alone Edmonson 91 without satellite 48 0,3 cm, Class 18 1 to 3 cm, 84 cases (3 Phase I and Phase II 37 42 Phase III class IV and 9). In 149 patients with HCC, information about portal thrombosis or pneumonia was available. Thrombosis occurred in 19 of 12 patients with diffuse or multinodular HCC. Metastasis was diagnosed in six patients. HCC was associated with CLD which was not present in 157 patients in 13 patients (7.6%) and cirrhosis (92.4%). 27 patients with HCC were anti-HCV/ HBsAg , anti-HCV1/HBsAg2 , HBsAg1 seventeen patients / anti-HCV1 and anti-HCV2. 157 and 23 HBsAg2 patients with HCC and 128 control groups were informed about alcohol consumption. HCC (30.6%), 38 control patients (29.7%) and forty-eight patients (at least 80 g / day within 5 years) (238 p, 0) consumed more alcohol. Alcohol dependence in patients with 12 seronegative controls (HBsAg2 / anti-HCV2), such as HCC 13 and liver cirrhosis. Child-Pugh class was present in 151 HCC and 154 individuals control.



AFP Levels:

HCC was significantly higher than that of AFP (4.5 ng / ml), P 0 ± 6 ng / ml versus 41 ng / ml. In both groups AFP 60.0 was 20 ng / ml and in the case (001 p, 0) 9.4%. Figure 1 represents the ROC curve of AFP in the population. The best discriminant value was 16 ng / ml, but both the sensitivity and the specificity of 20 ng / ml were almost equivalent (Table 1). For this reason, 20 ng / ml was used as the best cut-off point in analyzes performed in subgroups of patients. The accuracy of other cut values is very low. In HCC patients, the chil- dren class did not affect the likelihood of showing a high AFP (59.4% for Class A, 61.7% for Class B, 57.1% for Class C, P0: 995). no satellite is only 0.3 cm; 52.2%; 205 Simple 3. cm: 69,8%; Fuzzy: 61.1%; Mass 60.0% p 0; Multinodular 52.4%: same cancers alone (54.2% in severe pathologies, 0.3 cm: 50.0% on a single satellite, Multinodular most common: 67.9%, P0.0: P, 64.7: 628 degrees III IV 57.5 ± 333) and Edmonson grade (grade II). Finally, there was no correlation between HCC diameter and AFP elevation in 136 patients (P 0: 427). In Table 2, the population we obtained from the AFP reports 50% of the frequency of PPV and threshold NBD tumors, HCC became the three additional prevalence. For the cutoff value of 20 ng / ml, the most common estimate between cancer reduction and 25.1% was a dramatic effect on VPP. assignment using the image of 200 ng / ml, which is

Table 1
Sensibility and specificity of five serum levels of AFP for the diagnosis of HCC in the population under study*

AFP cut-off (ng/ml)	Sensitivity (%)	Specificity (%)
16	62.4	89.4
20	60.0	90.6
100	31.2	98.8
200	22.4	99.4
400	17.1	99.4

lower than the good frequency of VPP, the right triple of HCC cases were observed. Given a 10% prevalence of HCC, each cut-off value reaches a good NPV (90%) as shown in Table II.

Table 2
PPV and NPV for the diagnosis of HCC of four serum levels of AFP calculated for our population (where the cancer prevalence was 50%) and for three additional tumor prevalences[a]

AFP cut-off (ng/ml)	HCC prevalence (%)	PPV (%)	NPV (%)
20	50	84.6	69.4
	20	61.4	90.1
	10	41.5	95.3
	5	25.1	97.7
100	50	96.4	58.9
	20	86.9	85.2
	10	74.6	92.8
	5	58.2	96.5
200	50	97.4	56.1
	20	90.5	83.7
	10	80.9	92.0
	5	66.7	96.1
400	50	96.7	54.5
	20	87.9	82.7
	10	76.3	91.5
	5	60.4	95.8

[a] PPV, positive predictive value; NPV, negative predictive value; HCC, hepatocellular carcinoma; AFP, α-fetoprotein.

Virological status and AFP

In each group, higher 0.20 ng / ml AFP was higher in HCC than in the control group (HBsAg1 / anti-HCV2: 60.0 vs. 15.0%, P0: 004, anti- HCV/ HBsAg2 1: 68.0 vs 11.07% O: 001, HBsAg / anti-HCV1: 59.8 vs. 6.0%, P0: 004, anti-HCV/ HBsAg2 3: 31.4 vs. 0%, P0: 016).

Table 4 shows the PPV of 20 ng / mL and the NPV of AFP assessed in different tumor prevalences. In the three groups of infected patients, PPV markedly decreased with a decrease in tumor prevalence.

Table 4
PPV and NPV of serum AFP (20 ng/ml) for the diagnosis of HCC according to the virological status of patients[a]

Patients	HCC prevalence (%)	PPV (%)	NPV (%)
HBsAg+/anti-HCV−	50	80.0	67.6
	20	50.0	89.3
	10	30.8	95.0
	5	17.4	97.5
HBsAg−/anti-HCV+	50	86.3	73.0
	20	61.1	91.5
	10	41.1	96.1
	5	24.8	98.1
HBsAg+/anti-HCV+	50	90.9	69.6
	20	71.4	90.1
	10	52.6	95.4
	5	34.5	97.7
HBsAg−/anti-HCV−	50	100.0	59.0
	20	100.0	85.2
	10	100.0	92.8
	5	100.0	96.5

[a] They were calculated for our population (cancer prevalence: 50%) and for three additional tumor prevalences. PPV, positive predictive value; NPV, negative predictive value; AFP, α-fetoprotein; HCC, hepatocellular carcinoma; HBsAg, hepatitis B surface antigen; anti-HCV, antibody to hepatitis C virus.

Table 3 reports the sensitivity and specificity of .20 ng / ml of AFP according to virological status. Sensitivity was higher in HBsAg2 / anti-HCV1 (P0: 025) and seronegative individuals (P0: 011) compared to the global cohort. On the contrary, the specificity between the groups did not show any significant difference.

DISCUSSION:

The most common way to suspect HCC is AFP. In our population, AFP showed an accuracy of 82%, and according to previous studies, 16 ng / ml was the best cut-off point to identify HCC superimposed on CLD. However, we have accepted 20 ng / ml as the best shear value because this value has equivalent sensitivity and specificity and is at least considered the limit for investigating HCC. This segment had a fairly good specificity but low sensitivity. However, attention should be paid to predictive values that contribute to extreme clinical practice of specificity and clinical susceptibility. In our population, AFP was not satisfactory in NPV (indicating the likelihood that an individual with normal serum AFP does not have HCC). It should be noted that the prevalence of HCC is higher than expected (50%) in a clinical setting in our case-control study where the predictive value was critically affected by the prevalence of the disease. For this reason, we calculate the estimated values of cancer cycles in clinical practice. With a prevalence of 5% HCC, NPV was very high (about 98%), suggesting that most patients with normal AFP were correctly receiving the cancer-free group. Unfortunately, this estimated clinical benefit is diminished by the low sensitivity of AFP. In fact, false negative cases accounted for 40% of all HCC cases, although this was a minimal percentage of normal AFP patients (Table 1). This confirms the lack of productivity as a "screening test" as demonstrated by the AFP in prospective studies. Another hurdle for this margin of AFP is that the unacceptably low PPV (ie the probability of HCC of a patient with abnormal AFP) falls to 25% of the lowest cancer prevalence. This figure is similar to that reported in a prospective study with a cut-off value of 15 ng / mL in cirrhotic patients. Finally, the type of viral infection did not significantly affect the predictive value of HCC prevalence, and if a clinical setting is imitated, PPV is too low to be accepted in all infected patients. Among patients with viral CLD, we can conclude that the type of infection does not affect the clinical utility of AFP. In conclusion, our study showed that the APN value of 20 ng / mL recommended for HCC study in CLD (1) patients has almost the same discrimination power as the best cut-off point (16). ng / ml), (2) LaDiagnostice® AFPispoor is a screening test to buffer cognitive HCC detection; In fact, AFP monitoring can only prevent identification of unnecessary medical costs and patient anxiety, and can raise suspicion of

malignancy in a large number of patients not caught by many tumors. (3) 100 ng specificity / ml of AFP

as a synchronous test for HCC, (4) predictive values, which are the most useful parameters for clinical practice, are not significantly affected by the type of viral infection. It is responsible for underlying liver disease and (5) AFP may be a better indicator of HCC in uninfected patients than in infected patients.

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