

SERUM INTERLEUKIN-22 AS A MARKER OF DECOMPENSATED LIVER CIRRHOSIS AND HEPATOCELLULAR CARCINOMA IN CHRONIC HCV PATIENTS

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Introduction

Hepatitis C virus infection is one of the health problems in human societies, but in Egypt there were successful HCV screening and treatment programs. HCC is considered the most difficult health concern, as it is the fourth leading cause of cancer death in Egypt. Its incidence is rising globally, because of advancements in screening programs and diagnostic tools ,increasing the survival rate of cirrhotic patients, which increases the risk of developing HCC. Thus, thorough surveillance of these at risk population is mandatory. Due to the moderate performances of current diagnostic tools, several new biomarkers were proposed. IL-22 marker belongs to interleukin-20 family. This family has both pro- and anti-inflammatory properties and might be increased in cancer process.

Aim of the work

The aim of this study was to assess the serum levels of Interleukin-22 in HCV induced liver cirrhosis as well as HCC patients.

Methods

The study was conducted on 80 individuals from Alexandria Main University Hospital, Tropical Medicine Department; they were divided into four groups. The first three groups consisted of 60 patients each. Group I included 20 patients with HCV induced decompensated liver cirrhosis without HCC, group II included 20 patients with compensated liver cirrhosis while group III included 20 patients with HCC. Group IV consisted of 20 apparently healthy controls. Serum IL-22 was measured by ELISA.

Results

Serum IL-22 was significantly higher in HCC patients than in patients with decompensated and compensated cirrhosis. Moreover, there was also statistically significant difference between cirrhotic patients and controls (p=0.016).

Serum IL-22 also showed that the cutoff point discriminating HCC cases from decompensated cirrhotic cases was >81 ng/ml, with sensitivity of 95%, specificity of 95%, positive predictive value of 95% and negative predictive value of 95%.

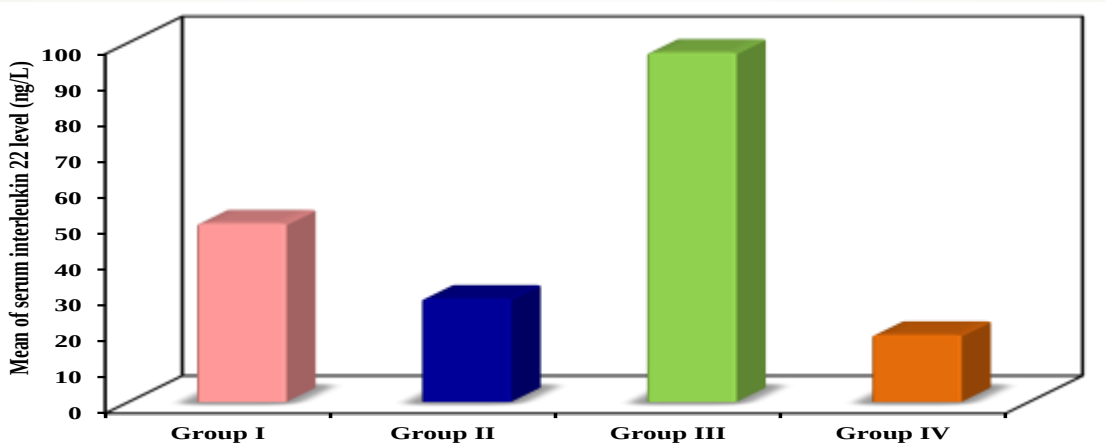


Figure (1): Comparison between the four studied groups according to serum IL-22

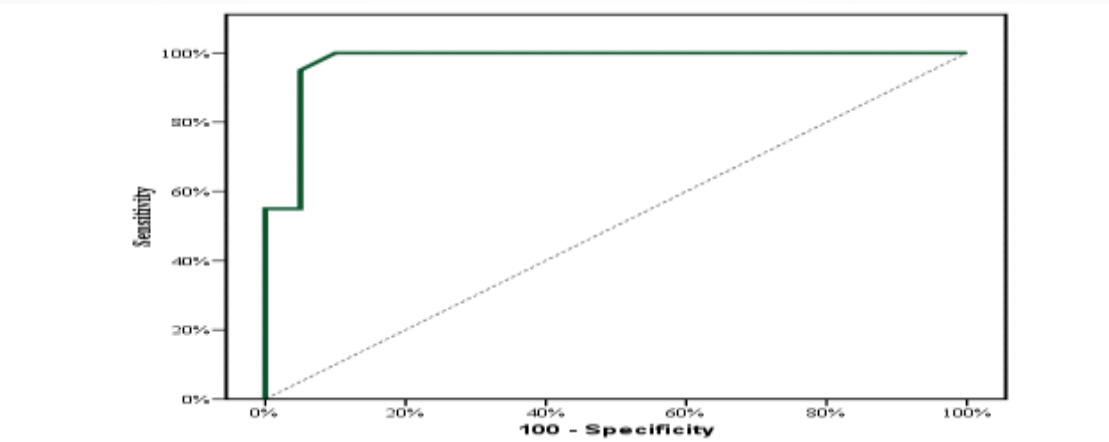
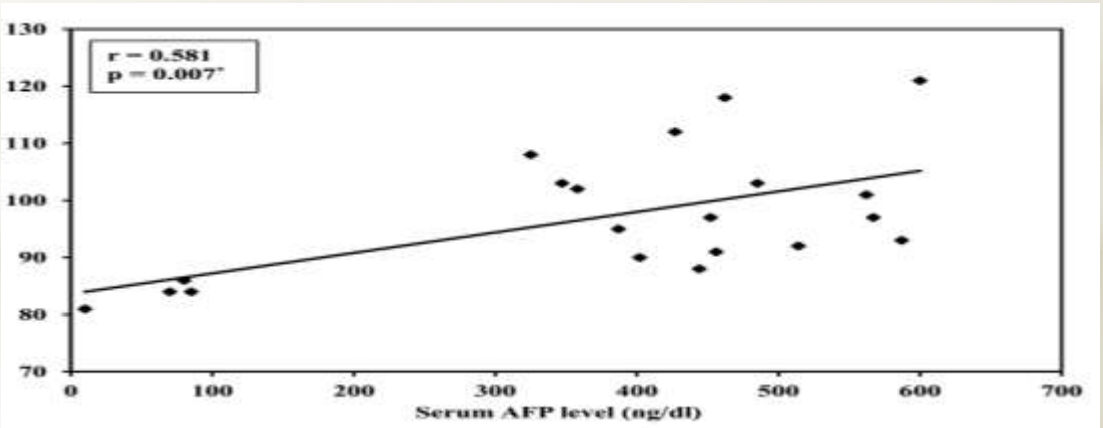


Figure (2): ROC curve for serum IL-22 to diagnose HCC (Group III) from decompensated liver Cirrhosis (Group I)

Table (1): Relation between Serum Interleukin 22 level and BCLC in group III

	N	Serum Interleukin 22 level (ng/L)		F	p
		Mean ± SD.	Median (Min. – Max.)		
BCLC					
A	2	85.0 ± 1.41	85.0(84.0 – 86.0)	7.206*	0.003*
B	9	91.11 ± 5.51	92.0(81.0 – 97.0)		
C	4	104.75 ± 13.70	105.0(88.0 – 121.0)		
D	5	107.40 ± 7.30	103.0(101.0 – 118.0)		

SD: Standard deviation
F: F for One way ANOVA test
p: p value for comparing between different categories
*: Statistically significant at $p \leq 0.05$
Group III: liver cirrhosis + HCC



Figure(3): Correlation between serum interleukin 22 level (ng/L) with serum AFP level (ng/dl) in group III (n = 20).

Conclusion

SerumIL-22 is a sensitive biomarker that could predict the development as well as the aggressiveness of HCC in cirrhotic patients.