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Investigating miRNA-661 and ATG4b mRNA expression as potential biomarkers for hepatocellular carcinomaOsama Sabēr, Mahmoud A Ali¹, Marwa Matbolī, Nashwa El-Khazragy, Nourhan Hossarh Ahmed Hamdy, Sarah El-Nakeēp Ayman El-Sayed Shafēand Randa Mostafā¹Armed Forces College of Medicine, Egypt²Ain Shams University, Egypt

Aim: In this study, we aimed to examine the statistical association of serum expression of miR-661 and ATG-4b mRNA with HCC based on in silico data analysis followed by clinical validation.

Patients & Methods: Bioinformatics prediction was first applied to retrieve the potential miR serving as an epigenetic regulator of ATG-4b mRNA. Real-time quantitative polymerase chain reaction (RT-qPCR) were used to examine the expression of miR-661 and candidate target gene ATG-4b mRNA in 105 hepatocellular carcinoma (HCC) patients, 50 chronic hepatitis C infected (CHC) patients and 45 healthy controls. The prognostic efficacy of the chosen genes was also explored.

Results: The expression of miR-661 and ATG-4B mRNA was positive in 97.14% and 77.14%, respectively. HCC patients with strong discriminating power between HCC and control showed AUC=0.9 and 0.8, respectively. The median follow up period was 28 months. The survival analysis showed that ATG-4b mRNA was not dependent on the prognostic factors. We also found that miR-661 was positively correlated with ATG-4b mRNA in patients' sera samples.

Conclusion: This is the first report about the considerable clinical use of miR-661 and ATG-4b mRNA in early detection and follow-up of HCC patients.

Biography

Osama Saber is a second year Medical Cadet in Armed Forces College of Medicine (AFCM). He is a member of International Genetic Engineering Machine Foundation. He has published many papers in various reputed journals.

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