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Circulating cancer stem cells markers in prognostication of hepatocellular carcinoma

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Abstract

The identification of non-invasive cancer stem cells markers for predicting patients at high risk of Hepatocelular carcinoma (HCC) development to allow early intervention and consequently reducing mortality and disease burden. In HCC, liver Cancer stem sells (LCSCs), expressing molecular markers (e.g. CD133, CD90, CD44 and EpCAM), exhibited resistance to radiotherapy and chemotherapy in vitro and in vivo through up-regulating the expression of drug efflux-related proteins and activating anti-apoptotic pathways and stem cell-related pathways. In the present study we used Chronic HCV infection group (n= 40), HCV with liver cirrhosis group (n= 40), HCV-HCC group (n= 40) and Age- and sex-matched individuals (n=35) as controls. The results revealed a variation in CD133/EpCAM lymphocytes in compare to EpCAM lymphocytes or CD133 lymphocytes and so is CD133/EpCAM Granulocytes or EpCAM Granulocytes and CD133 Granulocytes and the percentage of total CD133, total CD133/EpCAM. Total EpCAM expression was associated with younger age, and. The prognostic role of CD133 was most significant in HCC, while the prognostic role of EpCAM was more apparent in more advanced stages. We are planing to evaluate mononuclear cells nuclic acid Single nucleotide polymorphisms (SNPs) in CD133 (rs2240688A>C and rs3130C>T) using taqMan genotyping. TaqMan miRNA Reverse Transcription and qPCR reactions will be performed using MicroRNA-1825 primer assay while miRNA-39 will utilized as an endogenous control to normalize the data.

Biography:

Sami Mohamed "Lecturer of Molecular Biology, Theodor Bilharz Research Institute" is a Faculty of Science, Ain Shams University graduate (Ph.D.) .He works as a lecturer of biochemistry and molecular biology in Biochemistry and molecular biology and Midicinal chemistry dept., from 2003 up till now. His postgraduate studies were in Molecular Biology (Ph.D.) in collaboration with Rochester University, Biomedical Engineering dept., New York, USA. He has been carrying out research work on Recombinant pharmaceutical protein production and has been involved in research topics on: Biochemical and Biophysical Studies on Recombinant Human Growth Hormone Expressed in a Prokaryotic SystemThese studies helped in further elucidation of the process development of pharmaceutical protein production. He has shared and worked as PI and Co-PI in 5 research projects sponsored by international and national agencies.

Speaker Publications:

1. "Gut microbiota modulation as a promising therapy with metformin in rats with non-alcoholic steatohepatitis: Role of LPS/TLR4 and autophagy pathways"
August 2020European Journal of Pharmacology
DOI: 10.1016/j.ejphar.2020.173461
2. "New superior bioactive metal complexes of ligand with N, O donor atoms bearing sulfadiazine moiety: physicochemical study and thermal behavior for chemotherapeutic application"
August 2020Arabian Journal of Chemistry
DOI: 10.1016/j.arabjc.2020.08.010
3. "Transition metal complexes of a multidentate Schiff base ligand containing guanidine moiety: Synthesis, characterization, anti-cancer effect, and anti-microbial activity"
November 2019Journal of Molecular Structure 1203:127381
DOI: 10.1016/j.molstruc.2019.127381
3. "Cytochrome Oxidase Subunit And Internal Transcribed Spacer Molecular Revelation Of Infection With Fasciola Sp. In Field- Collected Lymnaea Natalensis Snails"
August 2019Journal of the Egyptian Society of Parasitology 49(2):357-364

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