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Abstract

Investigation of therapeutic potential of cytokine IL-33 in hepatitis

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Abstract:

A new member cytokine IL-33 has recently joined the family of IL-1 because of its 11th number in the family it is also nominated as IL-1F11. In human and mice, main source of IL-33 is liver fibrotic cells and Hepatic stellate cells (HSC) when are in their activated form. To explore the functional role of IL-33 in viral related liver pathology, murine model of hepatitis was developed by injecting Poly I:C and hepatoprotective function of IL-33 was measured by administration of pre-treatment of mice with recombinant IL-33 (rIL-33). The poly I:C represents a relevant viral hepatitis model in human, because poly I:C is a virus-related dsRNA mimetic which plays role in increasing the IL-33 level in fulminant hepatitis. The poly I:C activates the NK cells in liver that leads to induction of inflammation. The present proposal was to decode the hepatoprotective role of IL-33 and underlying mechanism in viral dsRNA mimetic and poly I:C mediated acute liver diseases i.e. Hepatitis in murine model. Serum biochemical parameters like dosage of aspartate aminotransferase (AST), alanine aminotransferase (ALT) was carried out by diagnostic kit in biochemistry auto-analyzer that displayed in higher amount in those mice that were challenged with Poly I:C and their level was observed lower in post-treated rIL-33 group after Poly I:C administration and the quantitative measurement of serum IFN-⍺ and TNF-⍺ was performed using Albcam's IFN-⍺ and TNF-⍺ mice ELISA kits results of both these pro-inflammatory cytokines were same like ALT/AST. Level of these cytokines was also higher in Poly I:C challenged group and lower in post-treated rIL-33 group. These results confirmed the therapeutic effect of IL-33 in hepatitis or liver related diseases. The results were statistically analyzed by T test and one way ANOVA that proven the level of liver biomarkers and pro-inflammatory were significantly differ in rIL-33 treated mice trials.

Biography:

I have cleared my graduation in Microbiology with an average grades but after that in my M.Phil I got opportunity to conduct my research in a project that was in collaboration with France & I traveled to France to conduct my M.Phil. research on titled ''Investigation of therapeutic potential of IL-33 in hepatitis'' in there advanced labs. I came back after great experiences and skills like to handle Hepatic murine model & perform PCR, neno drop, gel doc system, DNA ext, RNA ext, micro tomb, ELISA etc.

Several courses :- marketing , selling skills , negotiation, communication skills in Swiss institute and languages English ,Deutsch , Computer sciences. I participated in 5 international conferences as speaker and poster inside and outside Egypt and others Volunteer work was one of activities that i care to keep it for years

Publication of speakers:

1. Waqar, Namra & Amin, Quratulain & Munir, Tariq & Ikram, Muhammad & Shahzad, Naveed & Mirza, Arkim & Ali, Arshad & Arshad, Muhammad. (2019). A cross-sectional study of methicillin-resistant Staphylococcus aureus at the equine-human interface. Tropical Animal Health and Production. 51. 10.1007/s11250-019-01888-0.
2. Munir, Tariq. (2019). Investigation of therapeutic potential of Cytokine IL-33 in hepatitis.
3. Munir, Tariq. (2019). Archives of Clinical Microbiology Investigation of therapeutic potential of Cytokine IL-33 in hepatitis.

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