The Comparative Survey of Bovine Viral Diarrhoea Virus Antigen Cattle In Industrial Dairy Herds and Slaughter House of Mashhad Area-Iran

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Bovine Viral Diarrhoea Virus (BVDV) is a worldwide distributed infectious disease of cattle. This Pestivirus of the Flaviviridae can cause economical losses.

The aims of this study were to estimate the prevalence of Bovine Viral Diarrhoea Virus (BVDV) antigen positive in dairy cattle herds, and evaluate the significance of the associated between the BVD positive antigen animals and culled cows referred to slaughterhouse in Mashhad-Iran.

Totally, 157 individual blood samples were taken from 18 Holstein dairy cattle herds in suburb of Mashhad-Iran. Forty-one (26.11%) out of the total samples were prepared from culled animals referred to slaughterhouse in suburb of Mashhad. They were examined for the presence of BVDV antigen using Pestivirus-Ag capture ELISA. The results showed that 5 (3.18%) animals tested were antigen positive. Only one herd had one antigen positive cow. The infected cow retested after 3 weeks which was positive again. However, 4 infected antigen positive cows were detected from the slaughter house. All the positive BVDV aged less than 17 months old. The calculated true prevalence of antigen positive was 0.18%.

The differences between BVD antigen positive in slaughter house cows and dairy cattle herds were significantly higher (P<0.01).

It was concluded that the prevalence rate of positive BVD virus cows were not more than the other studies. It is likely that the positive cows were PI animals which were culled from the herds to be referred to slaughterhouse.

Epigallocatechin-3-gallate – A Green Tea Polyphenol And Natural Antioxidant May Serve As An Adjunct In The Management of Tuberculosis

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Introduction: Tuberculosis (TB), claiming 2-3 million lives a year, is spiraling out of control at an alarming rate due to prevalence of multidrug-resistant (MDR) strains, emergence of AIDS-related TB and variation in the efficacy of Bacillus Calmette-Guerin vaccine with respect to geographic latitude. Also, apart from the above, despite of antibiotics helping in complete recovery from tuberculosis in non-MDR patients, reports are available of development of antibiotics-induced side effects in host cells. Reactive oxygen species (ROS) and tumor necrosis factor (TNF-α), the hallmarks of tuberculosis, are directly induced in human monocytes by Mycobacterium tuberculosis. We have previously shown that the expression of 85B in M. tuberculosis–infected monocytes correlates positively with both the amount of secreted TNF-α and subsequent intracellular mycobacterial growth. Focus has now shifted to probe compounds from natural sources that have antioxidant, anti-inflammatory and antimycobacterial activity, which after boosting host immunologic responsiveness, may be particularly useful in the treatment of both tuberculosis and MDR-TB. Thus, we studied the incorporation of epigallocatechin-3-gallate (EGCG) - an antioxidant and chemo-preventive from green tea], as the natural adjunct of tuberculosis treatment.

Methods: The study was carried out by employing various methodologies like cell culture, cell viability assay, ELISA and RT-PCR

Results: We show the dose-dependent suppression of augmented expression of TNF-α at both the gene and protein levels in MTB-infected monocytes by cellular activation and ROS by a green tea polyphenol, namely, EGCG. Also, EGCG ameliorated the IFN-γ and intramcytocyte glutathione levels, which correlated inversely with the downregulation of ROS and TNF-α in MTB-infected monocytes. Conclusion: Hence, EGCG may prove to be a safe, economic and valuable natural adjunct in tuberculosis management.