Shubhada Bopegamage et al., J Antivir Antiretrovir 2016, 8:5(Suppl)
http://dx.doi.org/10.4172/1948-5964.C1.034

Coxsackievirus B4-E2 strain infection of gravid mice

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Enteroviruses are human pathogens, ubiquitous in nature and found in all countries of the world. Infections by these viruses are common. A few case reports suggest that *Enterovirus* infection of the mother during pregnancy may lead to preterm births, or slow growth of the fetus, embryopathy and increase the risk of development of chronic diabetes type 1 in children born to these mothers. Our aim was to follow-up the pathophysiological process after coxsackievirus (CV) infection in gravid mice. Selected organ tissues of pregnant mice orally infected with CVB4-E2 at different stages of gravidity (1st, 2nd and 3rd week of gravidity) were checked for quantitative measurement of viral RNA, histopathological changes and multiple cytokines induced simultaneously in sera of pregnant mice were determined. We observed difference in the cytokine levels between the mice infected in 1st, 2nd, and 3rd week of gravidity. High cytokine levels were noted at day 3 post infection (p.i.); further increased levels were observed at day 5 p.i. Cytokines differed in their levels at day 3 p.i. depending on the time of infection during the gravidity. Histopathological changes were observed in the pancreas but not in the hearts of the infected dams. Highest copies of RNA were observed in the heart at day 5 p.i. in mice infected in the 2nd week and in pancreas of dams infected in the 1st week on day 3 p.i. We conclude that time of infection during gravidity influences the severity of the infection and the innate and adaptive immune responses.

Biography

Associate Professor Shubhada Bopegamage, MSc., PhD is a Virologist currently heading the Enterovirus Laboratory and the National Reference Center for Identification of Enteroviruses at the Medical Faculty of the Slovak Medical University in Bratislava, Slovakia. Her work is focussed on the pathogenesis and diagnosis of enteroviruses. She received her BSc. Microbiology degree from Pune, India and MSc. Microbiology degree from Mumbai, India. She got her PhD in Biological Sciences from the Academy of Medical Sciences, Moscow, Russia. She is known in the Enterovirus research since 2005 for her work on the in vivo experimental coxsackievirus oral infection of mice. She is involved in research and teaching and has guided several MSc. and PhD students. She has co-ordinated and has lead several national and international projects as a principal or co-investigator.

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