

Original Paper

Effect of listeria monocytogenes colonization on maternal and fetal liver and spleen in BALB/c haploid mice

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Abstract

Background and Objective: *Listeria monocytogenes* is a gram-positive facultative intracellular non spore forming bacillus. The epidemiologic studies have shown that *Listeria monocytogenes* is the cause of abortion and abnormalities in human embryo. This study was done to determine the effect of *Listeria monocytogenes* colonization on maternal and fetal liver and spleen in mice.

Methods: In this experimental study, Inbred BALB/c dams allocated into case and control groups. Dams in interventional and control groups were received 200 μ L of 1.2 LogFCU/ml, *Listeria monocytogenes* and normal saline intraperitoneally, respectively. Few mice from each group were randomly selected and 5ml of blood collected, placenta, uterus liver and spleen were removed subsequently in 13 and 24 day of gestation and *Listeria monocytogenes* colonization were determined. Liver and spleen of full term offsprings were stained for the histological studies.

Results: *L.monocytogenes* strains were detected in different organs of mice dams up for 30 day of gestation. The highest and lowest of organ contamination were seen in liver and blood samples, respectively. The ratio of weight/volume of organ was higher in case than control groups. Hepatocytes degeneration, hepatocyte size alteration, cell cord atrophy and sinusoid dilatation were seen in the liver. Disruption of red pulp, disorganization of lymphoid nodules and necrosis were noticed in the spleen.

Conclusion: Contamination of BALB/c dams causes the histological alterations in the liver and spleen of offsprings.

Keywords: *Listeria monocytogenes*, Liver, Spleen, Mouse

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