Molecular Detection of *Listeria* spp. in Ovine Aborted Samples Referred to the Center of Excellence for Ruminant Abortion and Neonatal Mortality in Iran

Mehrnaz Gorgani[1], Gholamreza Mohammadi[1] , Pezhman Mirshokraei[1], Hamideh Kalate Rahmani[2]

1Department of Clinical Sciences, Ferdowsi University of Mashhad, Iran
2Department of Pathobiology, Ferdowsi University of Mashhad, Iran

Ovine abortion caused by *L. monocytogenes* represents a significant zoonotic concern affecting sheep globally. The disease is characterized by symptoms such as late-term abortion, fever, lethargy, and neurological manifestations. Accurate diagnosis of *L. monocytogenes*-induced abortion is essential for controlling disease transmission and implementing effective preventive measures. Diagnostic approaches include histopathological examination, bacterial culture, serological tests, and Polymerase Chain Reaction (PCR).Identifying the causative agent is crucial due to its zoonotic potential and associated risks for human infection. Timely diagnosis can mitigate transmission risks. PCR, a highly sensitive and specific technique, allows for the detection of *L. monocytogenes* DNA in clinical samples. This method amplifies specific genetic sequences using primers that target conserved regions of the genome, with visualization of the amplified DNA achieved through gel electrophoresis or real-time PCR systems.In our study, we performed PCR analysis on 110 clinical samples previously subjected to culture. Notably, while only one sample tested positive via culture, three samples were identified as positive through PCR. This discrepancy underscores the advantages of PCR over traditional culture methods, including reduced turnaround times and the capability to detect viable but non-culturable bacteria. Nevertheless, meticulous primer design and validation are essential to ensure specificity and minimize false positives. The occurrence of *L. monocytogenes*-induced abortion in sheep poses significant risks to livestock health and human safety. Although current diagnostic methods, particularly PCR, enhance detection capabilities, further research is warranted to advance our understanding of pathogenesis and to formulate effective prevention strategies.

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Email: mehrnaz4420@gmail.com