

## Detection of *Chlamydomphila Abortus* from Ovine Abortion by Cell Culture and PCR

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**Background & Objectives:** Enzootic abortion is one of the most common infectious diseases in sheep which caused abortion and stillbirths. It causes the severe economic losses for livestock industry. The causative agent, *Chlamydomphila abortus*, is a gram-negative obligate intracellular bacterium. Several diagnostic methods have been used for detection of *Chlamydomphila* organisms. The aim of this study was to investigate the presence of *Chlamydomphila* organisms in tissues of aborted ovine fetuses by PCR and cell culture.

**Methods:** The number of 168 tissue samples (placenta, liver, kidney, brain and lung) from 54 aborted fetuses were collected for PCR methods by using primers for amplification of *pmp* genes. Sixty three out of 168 tissue samples from 32 aborted fetuses were used for detection of *chlamydial* organisms using McCoy cells. The supernants of centrifuged tissue samples in SPG (sucrose/phosphate/glutamate) medium were used as inoculums. The growth medium plates containing cover-slips were removed and replace by the inoculums. After incubation for 2 days, the cover-slips were fixed in methanol and stained with Giemsa.

**Results:** Thirty six out of 168 tissue samples from 22 aborted fetuses were positive for the presence of *pmp* genes. Among 63 samples which were used for cell culture, 8 of them were positive for the presence of *Chlamydial* intracytoplasmic inclusions. Only five of these eight samples were positive by PCR Methods.

**Conclusion:** Results showed that the application of PCR for routine diagnosis of *Chlamydomphila abortus* in tissue samples from aborted fetoe was more sensitive and rapid than cell culture assay. However, cell culture is still valuable in a few research establishments.

**Keywords:** *Chlamydomphila abortus*; Abortion; Cell Culture; PCR