

Evaluation of the Chlamydial Abortion Frequency in Ovine Aborted Fetuses over a Consecutive Seven-Year Period in North-East of Iran

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Chlamydia abortus, also known as Enzootic Abortion of Ewes, is a notable bacterium that causes abortion in small ruminants, resulting in significant economic losses in the sheep industry. This zoonotic pathogen poses risks to individuals such as farmers and veterinarians. Infection within herds manifests through abortions, stillbirths, or weak offspring. In Iran, *C. abortus* is a frequently isolated pathogen in sheep flocks, with over 2% abortion rates. The prevalence of *C. abortus* ranges from 9% to 25%. Evaluating the rate of chlamydial abortion can help the experts to decide on control approaches. Our survey investigated the frequency of chlamydial abortion in sheep herds in Khorasan-e-Razavi province over a consecutive seven-year period. A total of 514 tissue samples (liver) from aborted sheep fetuses were collected between 2017 and 2024. The PCR method was applied using primers for amplification of the *pmp* gene. The occurrences of infection over the years of sampling were statistically analyzed using the Chi-square test. The *C. abortus* DNA was detected in 22.4%, 10.3%, 11.4%, 8.8%, 5.6%, 13.7%, and 24.27% of fetuses from 2017 to 2024, respectively. The occurrence of infection showed a significant trend ($p > 0.05$). The initial five years showed a reduction in chlamydial abortion rates, suggesting an increase in awareness among veterinarians and farmers in implementing control strategies. Moreover, after the first abortion, immunity developed in ewes prevents abortion in the following gestations. At the same time, the secretion of bacteria may continue for up to three years, making these ewes important reservoirs for the disease. The marked increase by 2024 shows that the disease has been overlooked by experts and raises alarms about a new outbreak, highlighting the need for appropriate protective measures to reduce its spread.

Keywords: *Chlamydia abortus*, Abortion, PCR, Ewes