Florfenicol as a Treatment for Mycoplasma bovis in Dairy Calves- A Two Year Study

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Mycoplasma bovis is a devastating disease in the cattle industry resulting in an estimated loss of $140 million in 2011. This causes mastitis, pneumonia, poly-arthritis, and otitis media in cattle. It is extremely difficult to treat which is why a cure is so crucial. The purpose of my study is to determine if florfenicol is a reliable treatment for M. bovis. In the lab I placed the petri dishes containing lachrymal,nasopharyngeal, and ear samples from 29 calve treated with florfenicol and 29 calves that did not receive florfenicol and a lit candle into glass jars and placed the jars in the incubator at 37°C.The candle will burn out creating an anaerobic environment necessary for Mycoplasma bovis growth. I left the samples in for ten days. After ten days I read the samples under a microscope, magnified 30 times, and counted the number of Mycoplasma bovis colonies present in each section and recorded the findings. I repeated the study excluding the administration of florfenicol. Fifty eight calves, twenty nine in the treatment group and twenty nine in the control group, were sampled and cultured. In the treatment group 83% (24/29) were positive initially and 90% (26/29) were positive ten days later after receiving one 6 mL subcutaneous injection of Florfenicol. This is a 7% (2/29) increase in the number of calves testing positive. In the control group 59% (17/29) cultured positive on day zero and 79% (23/29) of the calves tested positive on day ten. This is a 20% (6/29) increase in the number of calves positive from the start of the trial to day ten. Florfenicol, administered as a single dose at 6mL per 45.4 kg, did not demonstrate substantial activity against Mycoplasma bovis therefore not supporting my hypothesis.

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