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Title of thesis: Molecular detection and identification of chlamydial infection in some poultry farms in Iran

Summary:

Chlamydiaceae are a group of gram-negative intracellular bacteria which can infect a wide variety of hosts. They mostly inflict subclinical infection but more severe acute or chronic forms of infection are also possible. Some chlamydial agents are capable of crossing the host barrier and though they are potentially a risk to very different species. They also pose a zoonotic risk for human and different chlamydial agents are linked to several medical maladies. In this study we investigated the presence of these agents in different commercial poultry flocks in Iran. Swab and tissue samples were collected from 435 birds in 24 commercial flocks including five broilers, five commercial layers, four broiler breeders, eight commercial turkeys, and two turkey breeders. Only one flock of commercial turkey became positive using a *Chlamydiaceae* specific real time PCR assay targeting 23S rRNA gene. Partial DNA sequencing of intergenic spacer rRNA (IGS) gene revealed that all positive samples from the infected flock were *Chlamydia pneumoniae* and were identical to previously studied isolates from koala (LPCoLN) and frog (DC9). Further investigations showed slight dissimilarity in Major Outer Membrane Protein gene (*omp*A) of *C. pneumoniae* from different hosts. The detected turkey isolates were located in a different clade of phylogenetic tree, close to Western barred bandicoot and koala isolates. To the best of authors' knowledge, this is the first report of *C. pneumoniae* infection in commercial turkey.

Key worlds: Chlamydia infection, *Chlamydia pneumoniae*, poultry, turkey, chicken.