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**Recognition of two species of genus
Chlamydia derived from sheep, goats and
cattle: *Chlamydia abortus* and *Chlamydia
pecorum***

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ABSTRACT

The chlamydiae are a diverse group of obligate intracellular Gram-negative bacteria that are known to infect a wide variety of host species. The present study was conducted to detect the incidence of *Chlamydia abortus* and *Chlamydia pecorum* among cattle, sheep and goats. It was carried out on two groups of animals: the first one consists of apparently healthy cattle (n=35), sheep (n=8) and goats (n=23). The second one consists of diseased cattle (n=14), sheep (n=21) and goats (n=18) with different clinical findings such as: respiratory disorders, keratoconjunctivitis, vaginitis, abortion and diarrhea and the source of specimens were fecal (n=40), nasal (n=30), ocular (n=3) and vaginal samples (n=18). Moreover samples from internal organs (n=10) and sera (n=65) were also collected. Criteria of samples examination for detection of *Chlamydia abortus* and *Chlamydia pecorum* were as follow: CFT was used for determination of *Chlamydia abortus* and *Chlamydia pecorum* antibodies and antigen, Indirect Immunofluorescence test was used to confirm the presence of inclusion bodies of *Chlamydia* spp., *Chlamydia abortus* and *Chlamydia pecorum* were isolated by inoculation in 7-day old ECE via yolk sac route, TEM was used to confirm the presence of inclusion bodies of *Chlamydia abortus* and *Chlamydia pecorum* in infected yolk sac and The collected internal organs from animals were stained by Giemsa stain for detection of inclusion bodies of *Chlamydia abortus* and *Chlamydia pecorum*. Results of CFT reveal that serum samples of cattle, sheep and goats were positive for *Chlamydia* spp. antibodies in a rate of 85%, fecal samples in cattle, sheep and goats showed positive results for *Chlamydia* spp. antigen in a rate of 77.5%, while vaginal swabs in sheep and goats showed positive results for *Chlamydia* spp. antigen in a rate of 70%, whereas nasal swabs in cattle and sheep showed positive results for *Chlamydia* spp. antigen in a rate of 77% and all ocular swabs in sheep showed positive results for *Chlamydia* spp. antigen. Results were confirmed by Indirect Immunofluorescence Test revealed that 54% of cattle, sheep and goats specimens were positive. *Chlamydia* was isolated in Embryonated Chicken Eggs (ECE) and the results revealed that the percentage of *Chlamydia abortus* and *Chlamydia pecorum* in cattle 68.5%, 31.5%, respectively, in sheep 66%, 34%, respectively and in goat 55%, 45%, respectively. TEM assured the presence of inclusion bodies of *Chlamydia abortus* and *Chlamydia pecorum* in infected yolk sac. Results of staining of collected internal organs revealed that 60% of cattle and goats specimens were positive for the presence of inclusion bodies of *Chlamydia* spp. Finally the results suggested that the farm animals (cattle, sheep and goat) may be reservoir for *Chlamydia abortus* and *Chlamydia pecorum* and the disease should be considered as it affects animal health with zoonotic impact and causes severe economic loses.

Key words: *Chlamydia abortus*, *Chlamydia pecorum*, Transmission electron microscope, Indirect Immunofluorescent test.

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