71°

SOCIETÀ ITALIANA DELLE SCIENZE VETERINARIE

CONVEGNO SISVET

In collaborazione con

Dipartimento Medicina Veterinaria Produzioni Animali

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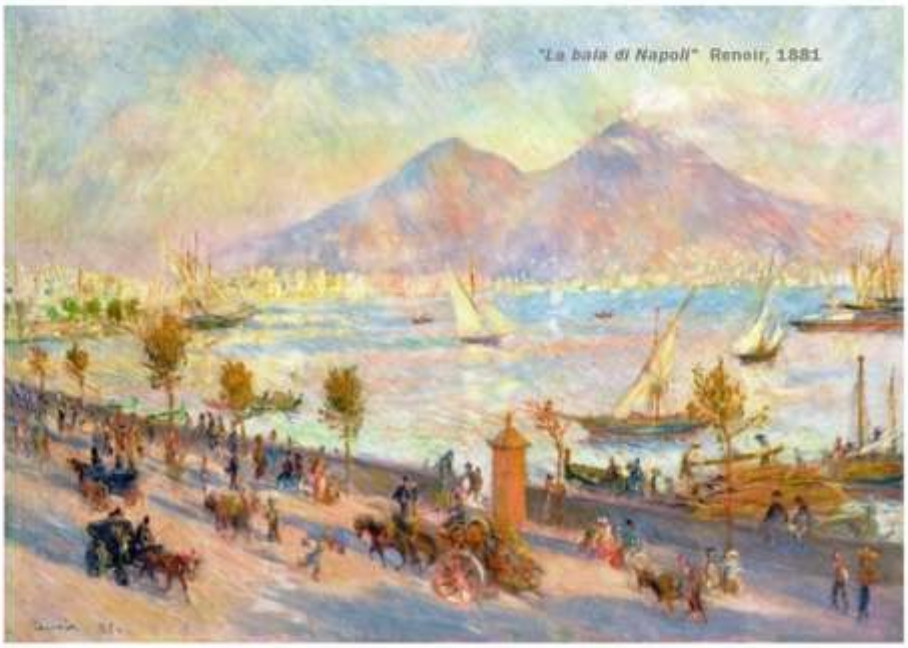

XVII Convegno SICV

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CHLAMYDIOSIS IN ORNAMENTAL CHICKENS (*Gallus gallus*) IN ITALY

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Until recently, *Chlamydia psittaci* was considered to be the only aetiological agent of avian chlamydiosis, but two new avian species, *Chlamydia avium* and *Chlamydia gallinacea*, have recently been described, with *C. gallinacea* most frequently detected in poultry. The aim of this study was to explore the occurrence of *C. psittaci* and *C. gallinacea* in ornamental chickens in Italy. Cloacal swabs were taken from 160 asymptomatic ornamental chickens reared in 16 family farms. Samples were tested by a *Chlamydiaceae*-specific real-time polymerase chain reaction (rt-PCR) targeting a region of the 23S rRNA gene conserved among all *Chlamydiaceae* [1]. Samples with Ct values <40 were considered positive and reanalyzed by a *C. psittaci*-specific rt-PCR targeting the incA gene [2] and with enoA-based rt-PCR for *C. gallinacea* [3]. The ompA gene of *C. psittaci* or *C. gallinacea* positive samples was amplified [4] and sequenced, to evaluate the percentage of intraspecies nucleotide similarity. Twenty-four of the 160 (15%) samples from chickens reared in nine farms, were *C. gallinacea*-positive. Then, 13 chickens from the two farms where a higher number of chickens tested positive, were sampled to attempt chlamydial isolation, obtaining eight *C. gallinacea* and one *C. psittaci* isolates. *C. gallinacea* was confirmed to be the endemic chlamydial species in chickens. A high intraspecies diversity was detected, with 12 different *C. gallinacea* sequence types. The isolation of *C. psittaci* and the detection of *C. gallinacea* circulating in backyard farms pose a public health problem. Unlike *C. psittaci*, the zoonotic potential of *C. gallinacea* has been suggested, but not confirmed, until now. However, mainly before the common use of molecular assays, the diagnosis of some human cases of chlamydiosis could be been stopped at genus level, disregarding other potential etiological agents. Breeding of ornamental chickens might expose the farmers to zoonotic risks because of the close farmer-animal contact. Moreover, whereas the principles and practices of on-farm biosecurity may be familiar to commercial farmers, hobbyists and backyard farmers may not be aware of the steps required to keep infectious diseases.

[1] Ehricht et al. Optimized DNA microarray assay allows detection and genotyping of single PCR-amplifiable target copies. Molecular and Cellular Probes, 20:60-63, 2006. [2] Ménard et al. Development of a real-time PCR for the detection of Chlamydia psittaci. Journal of Medical Microbiology, 55:471-473, 2006. [3] Laroucau et al. Outbreak of psittacosis in a group of women exposed to Chlamydia psittaci-infected chickens. Euro Surveillance, 20, pii: 21155, 2015. [4] Kaltenboeck et al. Structures of and allelic diversity and relationships among the major outer membrane protein (ompA) genes of the four chlamydial species. Journal of Bacteriology, 175:487-502, 1993.