

Prevalence and pathology of *Canine demodexosis* among different dog breeds in Egypt

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This study was undertaken to investigate the prevalence of monthly and seasonal variations of *Demodex species* among 944 dogs of different breed, sex, age in Cairo and Giza provinces, Egypt during a period from January till the end of December 2010 and revealed that, 134 dogs were infected with *Demodex spp.* in which the percentage of infection reached to 14.2%. 31 dogs out of 134 were carrying adult *Demodex* mites (3.3%). The highest prevalence was in April and May which reached 45.9% and 24.6% respectively. In regard to sex, no differences were recorded as out of 528 males and 416 females examined dogs percentage of infection of 14% and 14.4% were observed respectively. The highest percentage of *Demodex* infection was observed in dogs >2years old (22.6%) followed by dogs 1-2years (18.6%) then dogs 6months -1 year (13.7%) and finally dogs <6months (8.3%).

Moreover, there were differences between *Sarcoptes* and *Demodex* mites in dog histopathologically. The histopathological examination of skin infected naturally with *Demodex spp.* revealed severe pathological reaction. The skin showed large number of the parasite in the hair follicles and the dermis. The parasites in the dermis were surrounded by large numbers of inflammatory cells mainly lymphocytes, macrophages, eosinophils, mast cells, melanocytes, neutrophils and few numbers of giant cells. The blood vessels revealed congestion and engorgement with blood associated with large areas hemorrhages. In some areas the keratin was necrosed with pus accumulated accompanied with neutrophils above the keratin. The sebaceous glands showed necrosis of epithelial lining. The skin of dogs infested with *Sarcoptes spp.* showed large numbers of the parasites attached superficially to the keratin. The parasites were surrounded by inflammatory cells and necrotic debris of keratin. They were not invaded deeply neither in hair follicles or the dermis. The dermis showed slight numbers of inflammatory cells mainly macrophages and lymphocytes with dilatation of the dermal blood vessels.

Keywords: *Demodex species*, prevalence, histopathology Egypt.