

## 7. SUMMARY

Systemic fungal diseases are the infections caused by false treatment protocols and generally are not taken into consideration especially in Veterinary field. Candidiasis is an opportunistic infection affecting mucosal membranes such as oral mucosa and skin. Systemic candidiasis is generally associated with immune deficiency, low condition or iatrogenic applications such as long-term antibiotic consumption. *Aspergillus fumigatus* is an opportunistic pathogen causing a wide infection spectrum from allergic bronkopulmoner aspergillosis to systemic aspergillosis.

In this study, specific primers for DNA topoisomerase II gene sequences were used. Fungal infection rate was found to be as 34% in genomic DNA's obtained from 200 dog blood samples by using Nested PCR. 68 samples were found to be positive and 40 of these (58.8%) were caused by only one fungal agent, and 28 samples (41.2%) were called as mixed fungal infection. The incidences of *C. albicans*, *A. fumigatus*, *C. tropicalis II*, *C. parapsilosis I*, and *C. glabrata* were 16(8%), 12 (6%), 4 (2%), 4 (2%) and 4 (2%), respectively in 40 (58.8%) positive samples identified. 28 (41.2%) of positive mixed samples were identified as *C. albicans* and *C. tropicalis II* in 8 samples (28.57%), *C. albicans* and *C. parapsilosis I* in 8 samples (28.57%), *C. parapsilosis I-II* and *C tropicalis II* in 4 samples (14.28%), *A. fumigatus* and *C. parapsilosis II* in 4 samples (14.28%), *C. glabrata* and *C. parapsilosis I* in 4 samples (14.28%).

In conclusion, 34% positive systemic fungal infection rate in dogs observed in the present study showed that the systemic fungal infections are not taken into considerations in Veterinary medicine. Further studies are suggested in order to obtain and to maintain extensive data for systemic fungal diseases in our country

Key Words: *Candida* sp., *Aspergillus fumigatus*, DNA Topoisomerase II Gene, Nested PCR