

# PARASITIC INFECTION OF CANINES IN NAGPUR CITY, MAHARASHTRA

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[Received: 13.10.2020; Accepted: 15.05.2021]

{DOI 10.29005/IJCP.2021.13.1.47-49}

A study of fecal samples and blood smear examination was conducted on 200 dogs of different age groups, sex, and breed at the Department of Veterinary Parasitology, Nagpur Veterinary College, Nagpur. The overall prevalence of parasitic infection in dogs was 56% (haemoprotozoa 70 % and ova of helminths 30%). Dogs found positive for haemoprotozoa like *Ehrlichia* spp, *Babesia* spp., and *Haemobartenella* spp. After fecal sample examination, samples were found positive for ova of *Ancylostoma caninum*, *Toxocaracanis*, *Taenia* spp., *Spirocercalupi*, and *Spirometra* spp. Breed-wise prevalence of parasitic infection was highest in Labrador, i.e., 63 %. At the same time, the sex-wise prevalence in a male dog is 52 % which is higher than in females (48%). Age-wise highest prevalence was recorded in dogs of age group 0-2 years, i.e., 35 %. Common symptoms recorded in all positive cases were anemia, diarrhea, vomition, circling movement, inappetence, and ticks on the body.

**Keywords:** Parasites, Dog, Haemoprotozoan, *Ehrlichia*, *Toxocara*.

Wild and domestic dogs are important reservoir hosts of numerous intestinal parasites representing potential infection sources for humans and wild or other domestic animals. Intestinal parasites are essential pathogens in dogs, especially in groups where overcrowding and environmental contamination could favor transmission and maintenance of infestations. These populations of dogs might need special consideration when recommending a parasite control program, mainly because several dog intestinal parasites are zoonotic and endemic globally. This study aimed to determine the presence, diversity, and contamination potential of intestinal parasites in the dog.

The roundworm *Toxocaracanis* is one of the most common zoonotic GI parasites acquired from dog (Lee et al., 2010) followed by hookworms i.e. *Ancylostoma* and *Uncinariaspp.* (Bowman et al., 2010). In addition, the tick-borne diseases got evolved as a growing threat to both canine and human health. The most important tick-borne diseases that flare-up on dogs around the globe are Lyme disease, Ehrlichiosis, Anaplasmosis, Rocky Mountain Spotted Fever, Babesiosis, Bartonellosis, and Hepatozoonosis (Shaw et al., 2001). All can have serious health consequences for dogs

and many can have serious health consequences for people as well. These populations of dogs might need special consideration when recommending a parasite control program, mainly because several dog intestinal parasites are zoonotic and endemic globally (G. Baneth et al, 2016). This study aimed to determine the presence, diversity, and contamination potential of intestinal parasites in the dog.

A number of studies have demonstrated the presence of parasites that are pathogenic in man within samples of canine fecal material contaminating urban public areas (Sanchez et al., 2003). Eggs of *Taenia* spp. in feces have been shown to survive within the environment for periods up to 300 days at ambient temperatures between 0 and 10 °C and a relative humidity of 85%. The presence and persistence of infectious parasitic forms within urban squares and public recreation areas constitutes a significant health risk (Uga et al., 1996).

## Materials and Methods

A study of fecal samples and blood smear examination was conducted on 200 dogs of different age groups, sex, and breed at the Department of Veterinary Parasitology, Nagpur eterminary College, Nagpur, from

January 2019 to January 2021. Two hundred fecal samples were examined for parasite cysts, ova, and oocysts of helminths. Fecal samples were processed by double sedimentation and floatation technique and observed under 10x for the presence of ova of helminths. Blood smears were examined by Leishman's stain. Blood smears were stained by Leishman's stain observed under 100x for presence of haemoprotozoan.

**Results**

The overall prevalence of parasitic infection found in dogs was 56% (haemoprotozoa 70 % and ova of helminths 30%). Dogs found positive for haemoprotozoa like *Ehrlichiaspp*, *Babesia*

*spp.*, *Haemobartenellaspp*. After faecal sample examination, samples found positive for ova of *Ancylostoma caninum*, *Toxocaracanis*, *Taenia spp.*, *Spirocercalupi* and *Spirometrassp*. Breed wise prevalence of parasitic infection was highest in Labrador i.e 63 %. While sexwise prevalence in male dog is 52 % which is higher than female (48%). Age wise highest prevalence was recorded in dogs of age group 0-2 years i.e. 35 %. Common symptoms recorded in all positive cases were anaemia, diarrhoea, vomition, circling movement, inappetence and ticks on the body, Unilateral epitaxis, High temperature, Submandibular Lymphnode enlargement , black stool, reduced platelate count, Splenomegaly, Mucoid feces etc.

**FIGURES SHOWING OVA OF VARIOUS SPECIES OF HELMINTHS AND HAEMOPROTOZOA FOUND IN BLOOD SMEAR**



1.Ova of *Ancylostoma caninum*

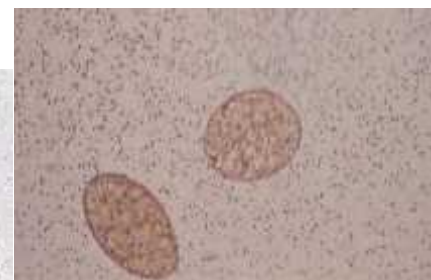
2. Ova of *Toxocara canis*



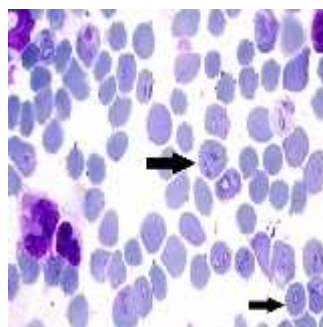
3. Ova of *Spirocercalupi*



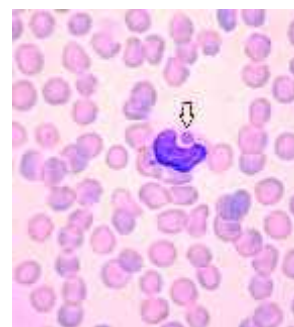
4. Ova of *Taenia spp.*



5.Ova of *Spirometra spp.*



6.*Babesia canis*



7.*Ehrlichia canis*

**Table 01. SHOWING RANGE OF AGE, SEX AND SPECIES OF DOGS FOUND POSITIVE FOR PARASITIC INFECTION.**

Species	Age	Sex
ND	2months to 15 yrs	M/F
LABRADOR	1month to 11 yrs	M/F
GOLDEN RETRIVER	9 months to 4 yrs	M/F
POMERIAN	6 months to 6 yrs	M/F
DOBERMAN	2 yrs to 3 yrs	M/F
PUG	6 months to 9 yrs	M/F
B. MALINORS	3yrs	M
GREAT DANE	1 yrs to 5 yrs	M/F
BEAGULE	1 yrs to 3 yrs	M/F
GERMAN SHEPHARD	1 yrs to 8 yrs	M/F
ROTTVILER	1 yrs to 11 yrs	M/F
SPITZ	3 months	F
CHIVAHA	2 yrs	M

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