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PROGRAM & ABSTRACT

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Toxocara Canis : Environmental Contamination And Prevalence In Dog And In Human.

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Toxocara canis is a cosmopolitan roundworm well known to veterinarians who daily recognize its eggs in dog feces. The high prevalence of toxocaral infection in these animals, particularly dog puppies, and the capacity of eggs to survive for many months in soil lead to significant contamination of environment and human infection occurs by occasional ingestion of embryonated eggs. The two most common syndromes in man are Visceral Larva Migrans

(VLM) and Ocular Larva Migrans (OLM) and the clinical picture varies with the number of larvae ingested, the frequency of reinfection, the intensity of the immune response and other factors. The aim of this study is to discuss the public health significance of the findings, by us performed in our region (Umbria, Central Italy), on the epidemiologic correlations between environmental contamination by viable and infective *T. canis* eggs and prevalence of canine and human toxocariasis. The present research was carried out during the period May 1993 - 1995.

Environmental contamination. No. 250 soil samples, collected from public parks and playgrounds, were examined by floatation method ($ZnSO_4$ 33% , density 1,800) (Genchi C., Arch. Vet. It., 27, 98,1976).

Copro-epidemiological study. No. 500 fecal samples of domestic dogs sent in laboratory and No. 350 fecal samples of stray dogs caught and kept in public kennels were examined by coprological methods (NaCl floatation, density 1,200) (Sloss M.W., Ed. Ermes Milano, 1976).

Sero-epidemiological study. The positivity for *T. canis* IgG antibodies determined by ELISA method was investigated in the following groups of subjects: (1) sera of No. 300 blood donors and sera of No. 300 healthy children (4-10 years of age) as groups theoretically representative of the healthy population; (2) two at-risk groups consisting of No. 100 sera of epileptic children (age ranged from 1 to 17 years) and No. 100 sera of drug addicts HIV + ; (3) NO. 82 sera of patients with a clinical picture referable to toxocariasis submitted to our Institute from regional hospitals. The results of the study on the environmental contamination showed a percentage of positivity of 32% in according to the value by us revealed in the fecal samples of stray dogs (33%). The coprological survey on the domestic dogs showed a positivity of 18.2%. The results of the serological study can be summarized as follows: 1) the positivity for *T. canis* IgG antibodies ascertained in the control group of the blood donors and in the healthy children was 3.4% and 12% respectively; 2) the prevalence obtained in the two at-risk groups showed similar values (epileptic children 23%; HIV+ subjects



22.4%);3) the total positivity rate found in patients with clinical features was 63.4% (84.6% in OLM patients and 15.4% in VLM patients). The present investigation strongly suggests that poor sanitation standards play a decisive role in the spread of this digestive-tract transmitted zoonosis.