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Epidemiology of human and canine leishmaniasis in the province of Imperia (Italy), 1994-1996

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ABSTRACT: The aim of this work is to compare canine Leishmaniasis and human Visceral Leishmaniasis geographical distributions in the Province of Imperia, an endemic area in Italy. The period examined ranges from the 01.01.1994 to the 12.31.1996.
In this period 1.097 cases of canine Leishmaniasis and 13 cases of human Visceral Leishmaniasis have been reported. Five of human cases out 13 have occurred in the Municipality of Imperia and 4 in the Ventimiglia one.
These Municipalities are both quite large and characterized by a very high prevalence of canine Leishmaniasis: 29.4% in Imperia district and 40% in Ventimiglia district. 4 human cases occurred in HIV-infected patients, 3 in children (younger than 2 years old) and 5 in adults affected by chronic diseases. A surveillance program on vector diffusion is to be started in summer 1998 to complete this epidemiological analysis.

KEY WORDS: *Visceral Leishmaniasis; Canine Leishmaniasis; Epidemiology; Surveillance.*

INTRODUCTION

The aim of this study is the evaluation of the geographical distributions of canine and human Visceral Leishmaniasis in the Province of Imperia, in Liguria, that represents an endemic area in Italy. The period examined ranges from the 01.01.1994 to the 12.31.1996.

MATERIAL AND METHODS

The area target of this study is located at 8° 01' E, 43° 52' N (Fig. 1) and extends 1155 Km2, between Ventimiglia and Cervo Municipalities.
Average canine population: 23.000
Human Population: 219.000
During this work about Visceral Leishmaniasis in the Province of Imperia 13 registered cases among residents have been examined.
This datum was obtained through an active epidemiological surveillance performed by the O.E.R.M.I. in collaboration with Infectious Diseases Departments of all Ligurian Hospitals.
Over the two years of the study, 1097 cases of canine Leishmaniasis have been diagnosed in the province of Imperia. Canine data were obtained examining with I.F.I. technique, 5.000 serum samples collected from self employed veterinaries during an epidemiological investigation sponsored by Regione Liguria.

RESULTS

Human Infection.

The infected persons were 9 male (69.2 %) and 5 female (30.8 %) (Graf. 1)

Fig. 1. Study area.

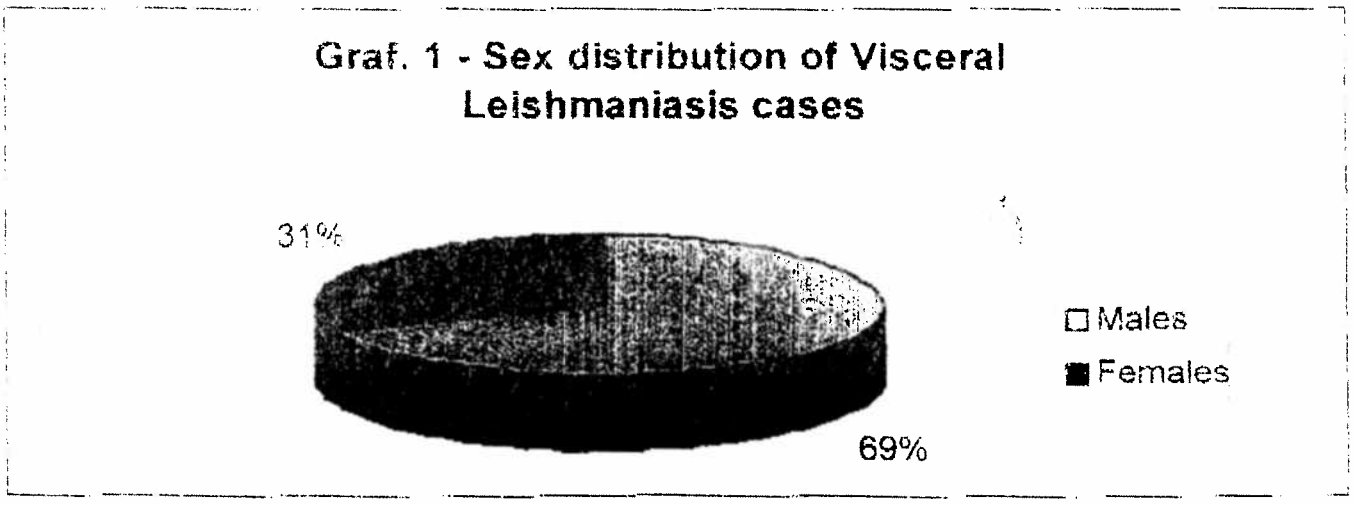
The age of the patients varied from a minimum of 7 months to a maximum of 73 years (average mean age = 30 years).
Patients in paediatric age were 8, two males and one female, and characterized by an age varying from 7 months to 18 months (average mean age = 11.8 months).
Other 4 patients (3 males and 1 female) presented HIV infection and 3 of them had already developed the syndrome.
The age of this category of patients, with HIV infection, varied from 28 to 36 years (average mean age = 32 years).
In an other group of patients 3 persons (2 males and 1 female) with an age varying between 38 and 59 years of age (average mean age = 48.5 years) were HIV negative but affected by chronic diseases.
A last category of patients was represented by 3 persons older than 64 years (2 males and 1 female). Two of them were affected by chronic diseases. The only registered death happened in this group.
Therefore it appears that pediatric age, HIV infection positivity and history of chronic debilitating diseases could be considered as risk factors for contagion with Leishmaniasis and the development of the Visceral clinical form.

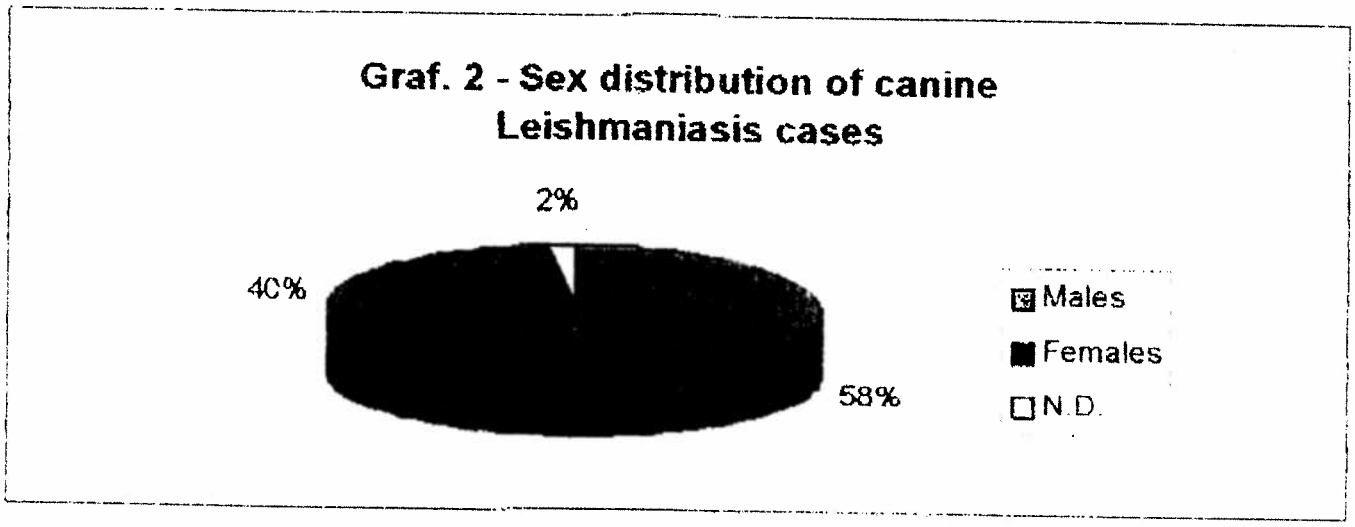
Canine Infection

The infection prevalence was of 36.1 % in the dogs leading an outdoor life during the night and of 20.8 % in the dogs spending the night indoor.
In rural environment Leishmaniasis affected the 33.6 % of the controlled dogs, while in urban environment the infected dogs were 21.7 %.
Finally a significative difference was recorded on the incidence of the canine Leishmaniasis in the two sexes. In fact the 58 % out of the cases of disease involved the male dogs (Graf.2).
Even on the base of previous studies we can confirm that the province of Imperia is an endemic region for this disease.
Therefore the analysis of the most important risk factors shows that the place where the animal spend the hours of the night (when the vector of Phlebotomus spp. is active) is at the top of the list, followed in descending order by environment and sex.

DISCUSSION

Among the 13 human cases, 5 and 4 have respectively occurred in the municipalities of Imperia and Ventimiglia.
These municipalities are both quite large and char-





acterized by a very high prevalence of canine Leishmaniasis: 29.4 % in Imperia district and 40 % in Ventimiglia district.

In the medical literature, male sex is considered as a statistically significant factor risk for this disease. Even in the province of Imperia this data seem to be confirmed.

For the first time our experience showed that the sex is a statistically significant factor risk also for the dog.

The present knowledge about human and canine Leishmaniasis in the province of Imperia allowed us to settle a first set of prophylactic measures, but for their better efficacity and for a full understanding of the disease, is absolutely necessary to provide for a more careful study on the vector biology in the future.

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