

## THE INCIDENCE OF RABIES BETWEEN THE STREET DOGS FROM BIHOR IN 2011

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### Abstract

*Rabies is a infectious viral, sporadic - enzootic disease, met in all species of warm-blood animals, transmissible to human, characterized by acute evolution with nervous manifestations expressed by hyperexcitability and aggressiveness, followed by paralyses and death. The rabies was signalized with a variable incidence on the whole earth, excepting Australia. Nowadays it is spread on the American continent, in the most countries of Asia and Africa, in many European countries. Australia, Japan, new Yeeland, Hawaian isle, England, Scandinavian countries, etc., is considered save pf rabies. In the last decade it is assessed a recrudescence of the disease on global level because of some wild animals that constitutes the source of rabic virus and maintain the natural focus of rabies(1,2,3).*

**Key words:** zoonoses, street dogs , symptoms

### INTRODUCTION

The etiologic agent is the rabies virus grouped in the Rhabdoviridae family, Lyssavirus gender. The virion has a cylindrical aspect with prolonged top (bullet profile) and dimensions of 120 – 180 nm length / 60 – 80 nm wide. In the structure of the virion, there is distinguished an shell of gluco – lipo – proteic nature, with a double wall, on which there may be observed minuscule speculum, surrounding a central longitudinal tubule in which is the nucleocapsid is wrapped in form of a helix (nucleoprotein). The rabies virus is formed 72% of proteins, 24% of lipids, 3% of carbohydrates and 1% ARN.

The viral genome codifies five structural proteins: L, N and NS (= M<sub>1</sub>) associated with the nuclear capsid, M (= M<sub>2</sub>) and G represented by shell proteins. The protein L has probably, the function of transcriptase. The internal nucleoprotein antigens (nucleocapsid) induce fixing complementary antibodies, precipitating antibodies and antibodies for immunofluorescence and are common with pararabies viruses.

The (membrane) M<sub>2</sub> protein and the (G) glycoprotein, component of spicules, which mediates the absorption and penetration of the virus in the cell, induce neutralizing, protecting and hemagglutination inhibition antibodies (only fraction G), determining the immunizing quality of the rabies vaccines and they are different from the ones of the related viruses.

The rabies virus transmitted on ordinary way, by bite or scratch, and which causes spontaneous rabies in different species of animals and in

human was named as “street” virus. Pasteur has obtained the “fixed” rabies virus which gained other features than the ones of the street virus, as exaltation of virulence towards CNS produces disease, only the paralytical form, after an incubation of 4 – 7 days, it is not eliminated by saliva, and does not produce inclusions or there appear rarely(1,2,3).

The most frequent way of transmission of the infection is the transcutaneous one, by bite or scratch. In this way, the virus is directly planted from the saliva of the sick animal in the respective organism and the bite is more dangerous as it is deeper and in a region nearer to the CNS or with a rich innervation ( lips, eye lids, nose wings, etc. ). Very dangerous are the cat’s scratches ( the virus gets easy in the saliva and then on its claws) as they usually are deep and hurt the nervous filets on wide surfaces(4,5). The saliva of the sick animals contain the virus and is infectant, also starting with the intubations period, with 1 – 5 days before the appearance of any sign of rabies, and in some cases with 10 – 14 days. It is estimated that the rabies virus appears in dogs’s saliva, in few hours up to 3 days before the appearance of the first symptoms(6).

The rabies evolves usually sporadic, with high rabigen potential. The incidence of the disease is conditioned by all factors which foster the meetings between animals and transmission of the virus. The epidemiological aspect is correlated with the biology of the species, main vector.

The existence of the dogs without an owner, in all regions of the country, confers a very disparate character to the cases of urban rabies, with season incidence, advantaged by the copulation period. In foxes, the highest frequency of the cases is registered in the first weeks of march ( after the copulation period which takes place between December – February ) and during the second semester of the year, when young animals ( towards the age of 4 months ) are looking for a vital domain, this leading to the meetings and fights with adults with a territory.

## **MATERIALS AND METHODS**

The researches were performed in Bihor county, in 2011, in Oradea, on a number of 100 homeless dogs. The dogs were captured without their general health state to be affected.

There were chosen especially dogs which were known with antecedents in aggressiveness, which have bitten or from the peripheric areas of the city, near some forests of Bihor county.

These researches took place in the period May – September 2011, at the homeless dogs shelter of Oradea. After caching / capturing, the dogs

were under sanitary – veterinary supervision for 15 days, for each individual dog.

The main clinical signs specific for rabies were under observation: hyper-salivation, aggressive behavior, anger, fix look, paralyzes of the lingual, masseter, oculomotor, laryngeal muscles, the dog is unable to eat, to bite, loses voice, the lower jaw hangs inert, the eyes become immobile, and from his mouth half – opened lots of ropy, slimy saliva is flowing out. It founds on general and immunoprofilaxis measures.

The priority objective of prophylaxis is the liquidation of the source of rabies virus. In domestic animals, the problem is easier and the respective measures include the strict control of circulation of dogs ( held in leash, even a snout protection ) and cats, reducing the dog population, capturing and destroying of homeless animals ( dogs, cats ) and systematic preventing vaccination of all dogs .

The Immunoprofilaxis means the applying of prophylactic or necessity vaccination. The numerous types of vaccines were prepared from the first vaccination applied by Pasteur and until now. The vaccines used in the present for animals, in different countries may be classified in vaccines with modified alive virus and inactive vaccines.

## **RESULTS AND DISCUSSIONS**

Within the 15 days of sanitary – veterinary observation, none of the captured dogs did present specific clinical signs of rabies. In 20 dogs out of 100, in the first 5 days from capture, there were slight forms of aggressiveness, which disappeared.

These forms of aggressiveness appeared either as a result of the stress caused by the transportation, of the holding in captivity, taking into consideration that these are homeless dogs, which are used to be free on the streets, or a result of their temper.

## **CONCLUSIONS**

The importance of rabies consist in the fact that it is one of the most severe zoonose and it involves major economic losses, not only because the infested animals end by death, but also because the big expenses that are made for applying the prophylaxis and combat measures. It founds on general and immunoprofilaxis measures.

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