

## EPIDEMIOLOGICAL ASPECTS OF PORCINE ROTAVIRUS INFECTION IN VENEZUELA

V. Utrera, M. Gorziglia and J. Esparza.

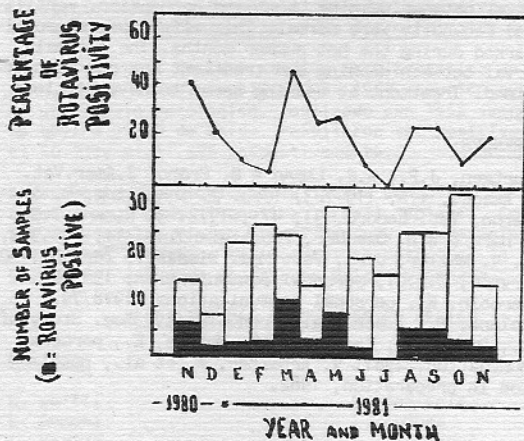
Faculty of Veterinary Medicine, Universidad Central de Venezuela, Maracay, Edo. Aragua, Venezuela, and Laboratory of Biology of Viruses, Instituto Venezolano de Investigaciones Cientificas, Caracas, Venezuela.

Rotaviruses have been associated with diarrhea in young pigs in various countries, such as England (1), Australia (2) and the United States (3-4). In the present communication we describe some epidemiological aspects of porcine rotavirus infection in Venezuela, a tropical country in which the Human Rotavirus is a major cause of infantile Gastroenteritis (5).

We analysed the faecal samples of 286 diarrheic unweaned piglets, one to six weeks old, collected from ten herds located in the states of Aragua and Carabobo, in the Central North part of Venezuela. The observation by Electron Microscopy of negatively stained specimens revealed the presence of typical Rotavirus particles in 61 (21,3%) of the samples. Adenoviruses were also observed in 2 (0,69%) cases and small icosahedral viruses in 13 (4,54%).

To study the seasonal incidence of the disease we analyzed faecal samples over a period of 13 months, between November 1980 and November 1981 (Table 1) the highest frequencies of positivity for rotavirus corresponded to November 1980 and March 1981 (41,2% and 48% respectively). The percentage of positivity in the period of time between November 80 and March 1981 was 26,72% corresponding to a rain fall of 43 mm. in comparison to the rain season (from April to October) with a positivity of 17% and a rainfall of 1407,9 mm.

TABLE 1: Monthly distribution of rotavirus infection in diarrheic unweaned piglets.



The frequencies of excretion of rotavirus according to age, (Table 2), show that piglets 3 to 4 - week old represent the group most susceptible to infection, as shown by the fact that rotavirus was demonstrated in 29 (39%) out of 75 cases of diarrhea examined; piglets younger than one-week of age, appeared to be completely refractory to infection.

TABLE 2

Frequency of porcine rotavirus excretion according to age.

Age (weeks)	No. of patients	N° positive	% positive
1	14	0	0
1-2	62	5	8,06
2-3	69	12	17,39
3-4	75	29	38,66
4-6	66	15	22,72

Electrophoretic patterns of genomic RNA of Rotavirus samples previously dissociated were determined in polyacrylamide gel stained with ethidium bromide and visualised under ultraviolet light (6).

Several different electroforetic patterns of Rotavirus RNA were demonstrated in randomly selected positive faecal samples corresponding to different periods of the year.

#### Conclusions.

- 1) Rotavirus represents an important cause of diarrhea in suckling piglets in Venezuela.
- 2) The infection rate during the dry season appears to be greater than the observed during the rain season.
- 3) 3 to 4 week old piglets are the most susceptible to infection.
- 4) Rotavirus infecting the pig population of the country presents different electroforetic patterns of genomic RNA.

#### Selected references:

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