

STUDIES ON THE PATHOGENESIS OF KLEBSIELLA IN THE
NEONATAL SCOURS IN PIGLETS.

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Within the limiting factors of the development of the swine production in México is the high mortality of the piglets during the first weeks of life. In México has been reported rates of mortality between 23-63% before weaning, being the first days the most critical (Garza J and Olguín F, 1978; Trujillo M. and Mendez D. 1986).

The scours is one of the diseases that cause a major trouble during these first days and mainly those produce by enteropathogenic microbials like *Escherichia coli* besides that other enteric agents that are also involved in this diarrhoeic syndrome, as is the *Klebsiella* sp. bacterial that could be present in the high respiratory tract of healthy individual thus as an associate with lungs diseases and the urogenital tract and actually it has been found as a causal agent in diarrhoeas severe in human beings (Klipstein and Engert, 1976) in the children population in México (Sanchez 1955 and Avalos 1978) have been confirmed their enteropathogenic role for man by Klipstein et al 1975, 1976).

The aim of this work was to show to the *Klebsiella* its pathogenesis in the neonatal diarrhoea of piglets. With this purpose were shown its adherent properties and its capacity to produce chiefly enterotoxin, besides its power to colonize of the gut of the pig developing diarrhoea in piglets as a consequence and its immunizing power once that it is given oral to sows in gestation.

Cell-Adherence.

First, it was to prove fimbriae presence through the formation of a picture in a liquid medium. Afterwards it was challenge to epithelial cells isolated from foetal intestine of swine, showing degrees different of cell adherence, moreover agglutination of red cells of guinea pig and its resistant to the mouse presence.

Enterotoxin production.

It was established through a 24 hr. inoculation culture in appropriate portions of swine intestine, being a positive reaction.

Colonization of the intestine and scour production in piglets.

Three deprived-calostrom piglets were inoculated, remaining three as controls, another test was carry out with five deprived-calostrom piglets and four piglets as controls, the inoculation dose was 10^8 bacterial/ml, given orally. The findings obtained in the two trials were very similar, diarrhoea began 24 hr., and body temperature rised to a highly significant level ($P < 0.005$) to the end of 96 hr., when the piglets were slaughtered. From each animal were taken duodenal, jejunum and ileum samples with the purpose to carry out to each one a bacterial count, founding that colonizing the intestine were *Klebsiella* and *E. coli* and when a dispersion curve was made, it shown a great amount of *Klebsiella* than *E. coli*. To the application of a Fisher exact X^2 , with the aim of evaluating the significance of diarrhoea presentation, it was found a $P < 0.25$, this fact is not a conclusive one but together with the rise of temperature, the number of bacterial established in the intestinal segments was in some cases higher than 10^8 , being all this very conclusive of the pathogenesis of the *Klebsiella*

41a inoculated. The strain was recuperated and proved its enteropathogenicity in an intestine rabbit.

Conclusions:

These evidences shown the pathogenic of *Klebsiella* sp in neonatal diarrhoea of the piglets therefore, *Klebsiella* has to be taken in account when control measures through immunizations are carry out, because actually *E. coli* is the only bacterial agent involved in this diarrhoeic syndrome.

Selected reference.

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