
This study was carried out in Cuban large-scale pigherie (Complejo integral de cerdos Caimao) in October 1986. First, herd history was obtained and whole litters of piglets and their sows, including diarrheic animals, were sampled and the animals were individually marked so that the same animals could be examined over a number of days. This study was performed on 85 piglets (10 litters) 4—18 days of age, which were individually coprophagically examined by flotation using Sheather’s sugar solution. Oocysts of I. suis were present in 38 samples of piglets (44.7 %) and oocysts of I. suis were not found in any of the samples from sows. Outbreaks of porcine neonatal coccidiosis were most often marked by the onset of profuse watery diarrhea in piglets. Only a portion of the litter was usually affected at one time and morbidity within litters varied from one pig to piglets in the litter. The diarrhea generally lasted 2—4 days.

Two piglets containing oocysts of I. suis in faeces were killed and routine necropsies were performed. Samples for histopathological examination were collected immediately after killing. At first we took a specimen of faeces from a spot distant not more than 5 cm from ostium ileocecal. More specimens were collected to 15 cm, 30 cm and then at each point distant successively 50 cm from ostium ileocecal so that the last one was taken from duodenum. In the large intestine we took one specimen from apex or corpus of the caecum, two from the colon and one from the rectum. Specimens for the histology were also collected from liver, kidneys, spleen and mesenterial lymph nodes. As a part of post-mortem examination we took scrapings of mucosa from different portions of the gut, smeared them and stained by Giemsa to evaluate the incidence of endogenous stages of coccidia as recommended by Stevenson and Andrews (Stevenson C. W., Andrews J. J., 1982: Vet. Med. /SAC 17: 111—115). Samples from the gut and other organs were fixed in 10 % neutral formal and paraffin tissue section were cut using conventional methods. The sections were stained by hematoxylin-eosin and azur-eosin.

The colon contents from the piglets were placed in 2.5 % potassium dichromate aqueous solution, poured into petri dishes and incubated at 23 °C, 30 °C and 37 °C. Oocysts cultures incubated at 20 °C and 37 °C were examined every 4 h and those incubated at 23 °C every 6 h. Sporulated oocysts of I. suis were obtained of fecal debris and enumerated for inoculation. Eight 3-day old piglets were inoculated via stomach tube with 200,000 sporulated I. suis oocysts. Two control piglets and infected piglets were observed daily for clinical signs of illness and for the shedding of oocysts. Experimental piglets were killed at various times after inoculation with oocysts and examined in the same way as spontaneously infected piglets.

The macroscopical lesions caused by spontaneous I. suis manifest themselves as catarrhal enteritis. Microscopically, they consist of more or less extensive atrophy of villi whose apical areas were covered by metaplastic pavenex epithelium. Predilected was a portion of caudal sector of middle jejunum and the cranial sector of the caudal jejunum. Endogenous stages of I. suis found within the described morphological alteration were situated in parasitophorous vacuoles. Endogenous stages of I. suis in smears prepared from mucosal scrapings matched with those detected in histological preparations from the respective sector of gut. Compared with histology, the method of mucosal scrapings is simple and renders diagnostic results within a very short period of time after necrospy. Similar results were reported by Stevenson and Andrews (Stevenson C. W., Andrews ...
The sporulation was completed within 8 h at 37°C, 12 h at 30°C and 36 h at 23°C. In
the present study, the sporulation times of
*I. suis* oocysts were shorter, as reported by
Lindsay (Lindsay D. S., 1982; J. Parasitol.
68: 861—865). The differences in sporulation
times reported by different investigators may
be due to the use of different isolates of *I. suis*
and use of different laboratory techniques.
The rapid sporulation of *I. suis* oocysts is
probably an important factor in the spread of
*I. suis* infections between litters of neonatal
pigs in the farrowing houses. The temperatures
between 32° and 36°C in farrowing houses in
Cuba create suitable environment for a rapid
sporulation of *I. suis* oocysts.

No oocysts were seen in histological sections
of intestine of piglets killed 6 h after inoculation.
The piglet killed 48 h after inoculation had no
large lesions and few oocysts were found in
villous epithelium. Severe diarrheas developed
in all piglets 68 h after inoculation and continued
for 4 days. Villous atrophy and fusions were
marked in middle jejunum, and focal erosions
to necrosis of villi and adhered necrotic debris
predominantly in the caudal jejunum and ileum
in the piglets killed 3 and 4 days after inocula-
tion. Many endogenous stages of *I. suis* were
seen in the epithelium of jejunum and ileum.
Oocysts of *I. suis* were at first in foci of
piglets 5 days after inoculation, prepatent period
of *I. suis* was 120 h. Microscopically the piglets
killed 9 days after inoculation had marked
atrophy and increased lymphocytic and neuro-
ophytic infiltrate in the lamina propria of jejunum
and ileum. Few endogenous stages of *I. suis*
were observed. The lesions induced in this study
are similar to the morphological observations
in natural infection and are in agreement with
the results of other authors (Stuart B. F.,
Lindsay D. S., Ernst J. V., Goater H. S.,
1980; Vet. Pathol. 17: 84—98; Robinson Y.,
Morin M., Girard C., Higgins R., 1983:
J. H., Meyer R. C., 1983; Vet. Rec. 116:
501—505). The endogenous stages of *I. suis*
in our experiment were similar to the stages in
the study by Lindsay et al. (Lindsay D. S.,
Stuart B. F., Wheat B. E., Ernst J. V., 1980:
The results of this work confirm that *I. suis*
may become a cause of neonatal diarrhea in
piglets in Cuba and represents a new enteropa-
thenogen for piglets in this region.

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