FINDING OF CRYPTOSPORIDIUM SP.
IN CALVES IN THE USSR


Until 1981, the diagnosis of Cryptosporidium infection in cattle was based only on histological examination of small intestine, particularly ileum, or staining of mucus of the intestinal mucous membrane after Giemsa. In most cases, however, the findings were only occasional, when the parasitological examination was made to complete the histopathological, bacteriological or virological examinations of dead or forcibly slaughtered calves. It was demonstrated that the infected calves excreted into the environment oocysts measuring 5.4 x 4.6 µm on the average. This fact, along with others, enabled to study the dynamics of occurrence of Cryptosporidium sp. in spontaneously infected calves (Pavlásek I., Vet. Med., in press), their distribution under various conditions of breeding and early diagnosis of these protozoan infections. Our studies revealed that Cryptosporidium is a widely spread parasite in Czechoslovakia, mainly in young calves, and its occurrence is associated with diarrhoeal diseases of calves at the age of 5—14 days. Similar results were obtained also by Snodgrass (Vet. Rec. 105: 488—490, 1980), Tsipori et al. (Inf. Immun. 30: 484—486, 1980), Nagy et al. (2nd Internat. Symp. Vet. Lab. Diagnosticians, Luzern, Switzerland, Abstract No. 118: 431—434, 1980) and others. These findings show the economic importance of cryptosporidial infections, because the diarrhoeal diseases of newborn calves represent a serious and still not completely solved problem in the new large-scale breeding technologies.

In the USSR, coccidia of the genus Cryptosporidium were recorded for the first time in two groups of bulls destined for fattening during examinations for endoparasites in Moscow region where diarrhoeal diseases occurred. The samples of faeces were collected from rectum and examined by Bresi's flotation centrifugation method (Bresi M., Helminthologia, SAV 1: 57—63, 1957). The oocysts were morphologically identical with those reported by Pavlásek (in press).

In the first breeding group we examined oophorally 20 bulls at the average age of 25 days. Eight of them were examined at the day when they were transferred to the stable and 12 had been stable there already for 6 days. The incidence of infection with cryptosporidia was 25% in both of them.

In addition to these animals, 16 calves at the average age of 6.7 days were examined in the farm from which the bulls originated. The incidence of Cryptosporidium infection was 56.25%. In 87.5% of the examined calves the excrements were half-thin to thin (watery) and contained phlegm (in 43.75%) and blood traces (in 25%).

In the second breeding groups, orientation examinations were carried out in 28 bulls at the average age of 25 days. The oocysts of Cryptosporidium were found in 8 bulls, i.e. in 28.57% of animals. Diarrhoea was registered in 10 bulls and 7 of them (70%) were found to be infected with Cryptosporidium sp. The excrements of calves suffering from diarrhoea contained phlegm and very often also blood.

Oocysts of Cryptosporidium were detected also in two 7-month-old bulls among 31 bulls examined in another farm in Moscow region.

The results indicate that Cryptosporidium is most probably widely spread in the USSR, like in Czechoslovakia. Of importance is the fact that it occurred particularly in calves suffering from diarrhoea. From the viewpoint of epizootology it is also significant that the infected calves may introduce cryptosporidial infection into large-scale breeding farms, as it is indicated by our studies performed in a large-scale calf breeding farm in South Bohemia (Czechoslovakia) (Pavlásek I., Vet. Med., in press).

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