DYNAMICS OF THE RELEASE OF OOCYSTS OF CRYPTOSPORIDIUM SP. IN SPONTANEOUSLY INFECTED CALVES

In an earlier paper (Pavlásek L., Folia parasitologica (Praga) 28: 187–189, 1981), the present author first found the protozoan Cryptosporidium sp. in calves from Czechoslovakia. In this paper, results are presented of an investigation intended to obtain information on dynamics of the release of oocysts of this species. For this purpose, calves aged from one to thirty days were examined under working conditions of two farms of southern Bohemia, each using a different mode of housing for their newborn calves. At the first farm (Dominin), calves were removed from their mothers immediately after birth, and transferred to individual, iron cages strewn with litter, in the prophylacticum outside the delivery shed. At the other farm (Hřivlovice), several calves remained with their mothers for a certain length of time, but the majority were fastened to one of the walls of the shed (with litter on the floor) which had contact with neighbouring calves.

At Dominion, we examined 8 calves, at Hřivlovice 12 calves (incidental selection) from which daily samples of faeces were taken from the rectum between 9:00 and 11:00 hr. Approximately one g of faeces of a normal consistency, or one ml of liquid excretions were examined with the flotation-concentration method suggested by Bress (Helminthologia 1: 17–20, 1927). The incidence of cryptosporidian oocysts was evaluated in the light microscope (× 1,000) using one to four erasures (± = solitary oocysts in the entire, fresh preparation, ++ = 1–2 oocysts in one viewing field of the microscope, +++ = 3–6 oocysts in one viewing field of the microscope, ++++ = more than 6 oocysts in one viewing field of the microscope).

At Dominion, the presence of oocysts of Cryptosporidium sp. was first found in the faeces of 4-day-old calves (50%). On day 9, the incidence of infection was as high as 75%. From the age of 6–12 days, the incidence of infection of all calves in the group examined was 100%.

At the age of 13 and 14 days, it decreased to 83%, and then, suddenly, to 20% on day 15. In 16–20-day-old calves, results of a faecal examination of faeces for cryptosporidian oocysts were negative.

A similar course was taken by the intensity of infection with oocysts of Cryptosporidium sp. Faeces of calves aged 4 and 5 days contained an occasional oocyst (+). A marked increase in the number of released oocysts (+++) was found in calves aged 8–12 days. A reduction in the number of released oocysts started at the age of 13 days.

At Hřivlovice, the first cryptosporidian oocysts started to appear in the faeces of calves aged 4 days (83%). On day 5, the incidence of infection was 88%, on day 6, 83%, from days 7–12, oocysts were present in the faeces of all calves of the group examined. The incidence of infection started to decrease on day 14 (72.7%). On day 15, there was a sudden