قسم صحة الحيوان
كلية الطب البيطري - جامعة أسوان
رئيس القسم: أ.د. عبد المعز أحمد إسحاق

مدى تواجد طفيلي الكربتوسبرديم في أسهل العجل الرضيعة في مصر العليا

محمد صباح، صباح مصطفى

تم فحص مائة عينة من براز العجل الرضيعة وحديثة الولادة المصابة بالاسهال والسلية
ميكروسكوبيا لتحديد تواجد الطفيلي من عده وقد أمكن توضيح الطفيلي في عدد 47 عينة من براز
العجل الرضيعة المصابة بالاسهال (47% ) ولم يتم توضيح الطفيلي في براز العجول
الرضيعة السليمة مما يوضح بأن طفيلي الكربتوسبرديم يلعب دوراً في حدوث الاسهال للعجل
الرضيعة وقد ناقش البحث الطرق الوقائية والعلاجية لمنع انتشار هذا المرض خصوصاً بين
العجل الرضيعة.

معهد بحوث صحة الحيوان (أسيوط)
INCIDENCE OF CRYPTOSPORIDIUM SPECIES IN NEONATAL DIARRHEA OF CALVES IN UPPER EGYPT
(With One Table)

By
M. SOBIEH and SABAH MOUSTAFA*
(Received at 16/7/1987)

SUMMARY

In recent years, cryptosporidium, a coccidian parasite of the intestine, has been associated with neonatal diarrhea in calves. Cryptosporidium were found in feces of 23 calves with diarrhea (28.77%), while, the parasite were not found in the feces of 20 clinically normal calves examined. Cryptosporidia were demonstrated microscopically in Modified Acid Fast stained smears of feces from infected calves. Supportive therapy and strict hygienic measures would help to control the spreading of cryptosporidiosis among young calves.

INTRODUCTION

Cryptosporidia are protozoa of the class Sporozoa, subclass Coccidiasina, the order Eucoccidiorida, the suborder Eimeriorina, family Cryptosporidiidae, genus Cryptosporidium. They occur in several host animals and are thought to be host specific, thus there are currently a number of species identified (LEVINE, 1973).

Infection with cryptosporidium generally results in an acute self-limited diarrheal illness in immunocompetent individuals, but in an immuno-compromised host can cause protracted diarrhea with accompanying malabsorption, dehydration and electrolyte imbalance, Cryptosporidiosis can cause substantial economic losses and high fatality rates among young animals. (Bureau of Epidemiology, Texas Department of Health, 1985).

The first description of bovine cryptosporidiosis was in 1971 in an 8 month-old heifer (PANCIERA, 1971). There have been several reports on cryptosporidiosis in calves with neonatal diarrhea (BARKER, 1974; MEUTEN, et al. 1974 and SCHMITZ, 1975).


A few recent reports have described outbreaks of diarrhea which could only attributed to cryptosporidium (ANDERSON, 1981 and TZIPORI, et al. 1980). The clinical picture which emerges from field reports is one mild to sever diarrhea occurring in calves aged between one and 4 weeks, with high morbidity and low mortality. The youngest calf reported to be affected with the disease was 4 days (SNODGRASS, et al. 1980) and the oldest was 26 days (TZIPORI, et al. 1980). The illness lasted between 2 and 14 days, the average being 7 days; relapses occurring after apparent recovery have also reported.


Our paper concern with the demonstration of cryptosporidium oocyst in the feces of neonatal diarrheic calves in Upper Egypt.

**MATERIAL and METHODS**

In this study, a total of 100 fecal specimens were collected individually from calves of 1 to 15 days old, 80 with and 20 without diarrhea from different farms in Assiut Governorate.

The technique used for detection of cryptosporidium was according to that recommended by the California Department of Health service (1984). With this technique the fecal specimens were treated by 10% formalin. The fluid sample was centrifuged at 650 r.p.m for two minutes, and the supernatant fluid was discarded and replaced with an equal amount of 10% formalin to the sediment. The sample was then mixed, and 0.1 to 0.2 ml of the mixture was transferred to another 15 ml centrifuge tube. Then to this mixture, 1 to 2 drops of 10% formalin was added. Fecal smears for each specimen taken and stained by UCLA Acid-Fast staining technique for detection of cryptosporidium (GARCIA, et al. 1983). This modified acid fast technique had the advantage of reducing the chance of over decolorization. Furthermore, the color was intense enough to allow the smear to be scanned at x 400 as well as 1,000.

<table>
<thead>
<tr>
<th>Animal</th>
<th>No. of specimens</th>
<th>No. of positive</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calves with diarrhea</td>
<td>80</td>
<td>23</td>
<td>28.77</td>
</tr>
<tr>
<td>Calves without diarrhea</td>
<td>20</td>
<td>non</td>
<td>-</td>
</tr>
<tr>
<td>Over all</td>
<td>100</td>
<td>23</td>
<td>23</td>
</tr>
</tbody>
</table>

**RESULTS**

The obtained results were tabulated in Table (1).

**DISCUSSION**

Cryptosporidia were found microscopically in feces of 23 calves with diarrhea (28.77%) (Table 1). In contrast, cryptosporidia were not found in the feces of 20 clinically normal calves examined. The data reported here, agreed with those of (MORIN, et al. 1976; POWELL, 1976, and SOBEH, et al. 1986) and are interpreted to indicate that enteric Infection with cryptosporidia are common in neonatal calves with diarrhea. Infected animals serve as a reservoir of infection which is then spread to other animals through contamination of feed and water with the cryptosporidia faeces-droppings. Adequate treatment of cryptosporidiosis has not been described (MOON, et al. 1982). In most animal species the disease is self-limiting. Mortality is usually low, unless the animals are colostrum deprived, have some other immuno-deficiency or are exposed to other enteric pathogens. (ANDERSON, 1982). Improvement of environmental health conditions through meticulous observance of sanitary procedures, segregation of infected animals, hygienic disposal of infected manure. Neonatal calves should receive colostrum as soon as possible after birth, crowding should be avoided an given supportive therapy, all of these may help to reduce the occurrence of the infection in the calf population.

REFERENCES
