

MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH

UNIVERSITY OF KARBALA

COLLEGE OF VETERINARY MEDICINE



**ABORTION IN SHEEP CAUSED BY campylobacter
(VIBRIOSIS)**

الاجهاض في النعاج بسبب بكتريا الكامبلوبكتري

SUPERVISION

اشراف

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الخلاصة summary

الإصابة بـ بكتريا الكامبلوباكتر تؤدي إلى أحداث الإجهاض في النعاج الحوامل وبالفترة الأخيرة من الحمل وأحداث التهابات في الجنين والمشيمة والأعضاء التناسلية في الأم، ممكن أن نلاحظ علامات مرضيه على الأم قبل الإجهاض، يتم علاج الحالة في المناطق التي ينتشر فيها، ويمكن عزل هذه البكتريا من المشيمة أو الجنين المجهض.

Introduction

_Campylobacteriosis : is an infectious disease in sheep and occasionally goats that causes abortion.

In general, this infection is NOT caused by the same organism that causes abortions in cattle.

The former name of this bacteria was *Vibrio fetus intestinalis*(vibriosis). (1)

_Infection with *Campylobacter fetus fetus* and *C. jejuni* results in abortions in late pregnancy or stillbirths.

Ewes may develop metritis after expelling the fetus. Placentitis occurs with hemorrhagic necrotic cotyledons and edematous or leathery intercotyledonary areas.

The fetus is usually autolyzed, with 40% having orange-yellow necrotic foci (1–2 cm diameter) in the liver.

Diagnosis relies on finding *Campylobacter* organisms in darkfield or fluorescent antibody preparations or by isolation from abomasal or placental smears or in uterine discharge.

Identification of the species involved is important because in some areas *C. jejuni* is as common as *C. fetus*, and some vaccines do not include *C. jejuni*.

Strict hygiene is necessary to stop an outbreak. Use of tetracyclines may help prevent exposed ewes from aborting.

C. jejuni is zoonotic and is one of the most common causes of enteritis in huma. (2)

_The bacterium *Campylobacter* is the third most common cause of infectious abortion in the United Kingdom and has increased in relative importance in recent years.

Outbreaks of *Campylobacter* abortion tend to be sporadic in nature, although abortion rates in outbreaks of 20% or more are possible.

The correct handling of abortion material and affected sheep is particularly important since infection is easily spread within a flock.

The use of antibiotic treatment in the face of a *Campylobacter* abortion outbreak generally produces no significant benefits.

Ewes which become infected with the organism develop a lifelong immunity and will not abort from this cause again.

This means that outbreaks very rarely recur in the years following a *Campylobacter* abortion incident. (3)

_*Campylobacter jejuni* was inoculated intravenously into pregnant ewes on gestation days 114 and 123 to reproduce ovine abortion.

All ewes aborted 7-12 days post-inoculation.

High numbers of *C. jejuni* were isolated from ewe tissues (caruncle, bile, cecal feces), fetal tissues, and placenta.

C. jejuni colonies were identified in caruncles and placenta by light microscopy and immunoperoxidase techniques.

Histologically, inoculated ewes had a severe purulent endometritis with vasculitis. Placentas from inoculated ewes and field cases showed necrosis and purulent inflammation; however, placentas from inoculated ewes had large numbers of bacterial colonies compared to few bacteria found in field cases.

Histologically, only one fetus from the inoculated ewes showed lesions (purulent bronchopneumonia), whereas all fetuses from field cases had a distinct bronchopneumonia, and one fetus showed multifocal hepatic necrosis.

These results suggest that *C. jejuni* (serotypes Penner 1 and Lior 2) is an important abortifacient organism for sheep. (4)

_ Usually no symptoms are noticed before abortion, but close observation may reveal vaginal discharge several days before abortion, and the ewe may appear sick.

After abortion there is usually a brown vaginal discharge for several days. (5)

Clinical Signs

Once infected with the organism, the ewe/doe may have a fever, diarrhea, and vaginal discharge.

As the infection develops, inflammation of the lining of the uterus (**endometritis**) occurs and the fetus becomes infected and dies.

Most abortions occur in the last 6 weeks of gestation.(1)

-Late pregnancy (last 6 weeks), younger animals - so often "see" it .

-Foetal stomach contents, culture from placenta, vaginal discharges.

-Abortions occur 7 to 25 days post infection.(6)

- *C. jejuni* has recently become the predominant cause of sheep abortion in the U.S.; *C. fetus* subsp. *fetus* also causes late term abortions, stillbirths and weak lambs in this species. Infections in sheep are sometimes followed by metritis and occasionally deaths. Recovery, with immunity to reinfection, is typical. Sheep can become persistently infected and continue to shed bacteria in the feces. *Campylobacter* spp. can also cause abortion in goats There is limited evidence of reproductive signs in other ruminants, though this is likely complicated by a lack of testing and reporting in these species. *Campylobacter fetus* subsp. *venerealis* has been isolated from cervical swabs in infertile camels. *Campylobacter*-associated abortion (*C. fetus* subsp. *fetus*) has been described in alpacas (*Vicugna pacos*) that were comingled with sheep.

-*C. jejuni* is also known to cause abortion in cattle and sheep(7).

Diagnosis

Diagnosis of this disease is usually based on isolating the organism from a tissue or fluid sample.

The most reliable source for a sample seems to be the aborted fetus.

When a necropsy is performed on an aborted fetus, certain lesions/problems associated with campylobacteriosis can often be identified.

These lesions include areas of dying tissue (necrosis) in the liver, evidence of pneumonia, and signs of swelling (edema).

Treatment

Breeding females generally return to normal after aborting and can then be used as breeding stock.

Although results vary, abortion outbreaks can potentially be treated with daily by feeding tetracycline (75-300 mg/head/day).(1)

- Many cases of campylobacteriosis are self-limiting and require only supportive therapy. Antibiotics may be useful for some cases of enteritis, especially those that are severe.

Macrolides and fluoroquinolones are commonly prescribed for campylobacteriosis . ;however, resistance to these and other

Treatment of healthy animals is not recommended for several reasons: there is a high likelihood of re-exposure and there is no evidence that treatment is effective.

Antibiotic treatment may not completely prevent shedding in colonized animals, though it may prevent exposed sheep from aborting during an outbreak(7).

Figures



Figure1:aborted fetus

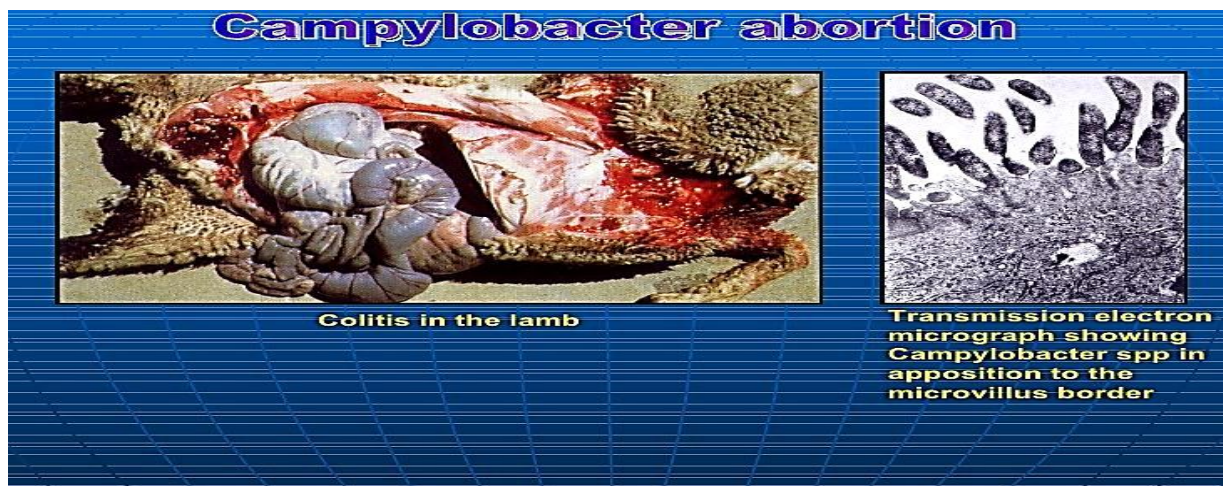


Figure2:colitis in the lamb.

24- Campylobacter abortion

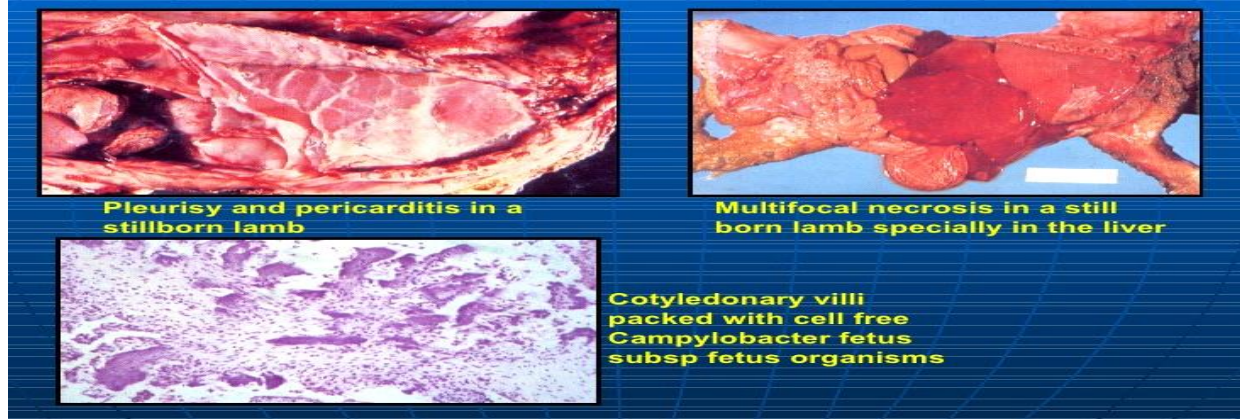


figure 3:pleurisy & pericarditis in a stillbirth lamb.

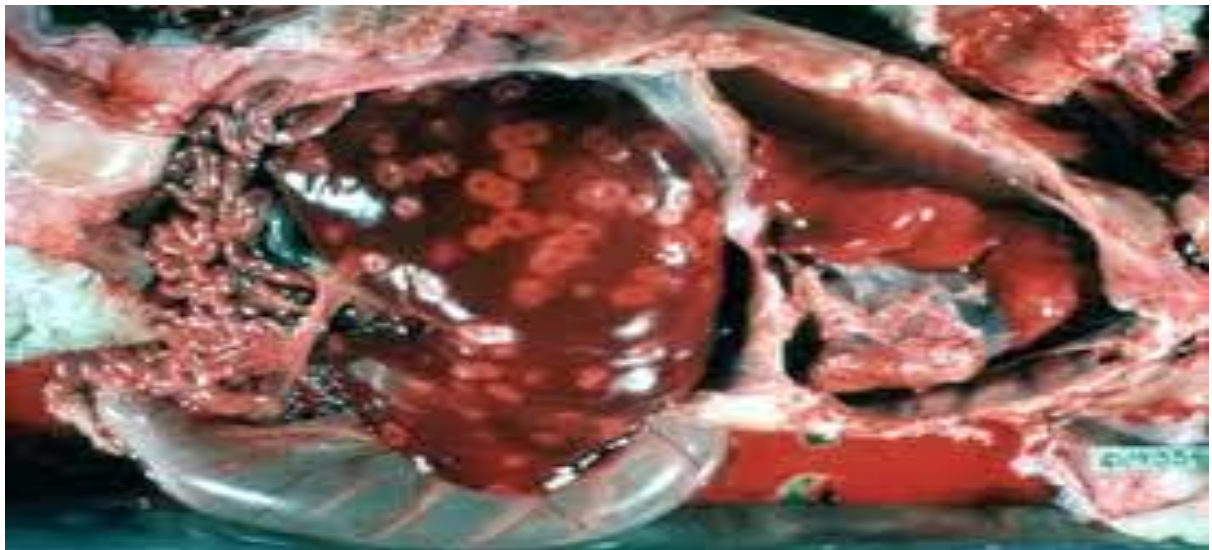


Figure 4: Necrotic in liver of aborted fetus.

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