

Pathogenesis of Abortions





Reasons for Fetal Loss

- Malnutrition
- Trauma
- Hormonal
- Dystocia
- INFECTIONS



Abortion and Stillbirth

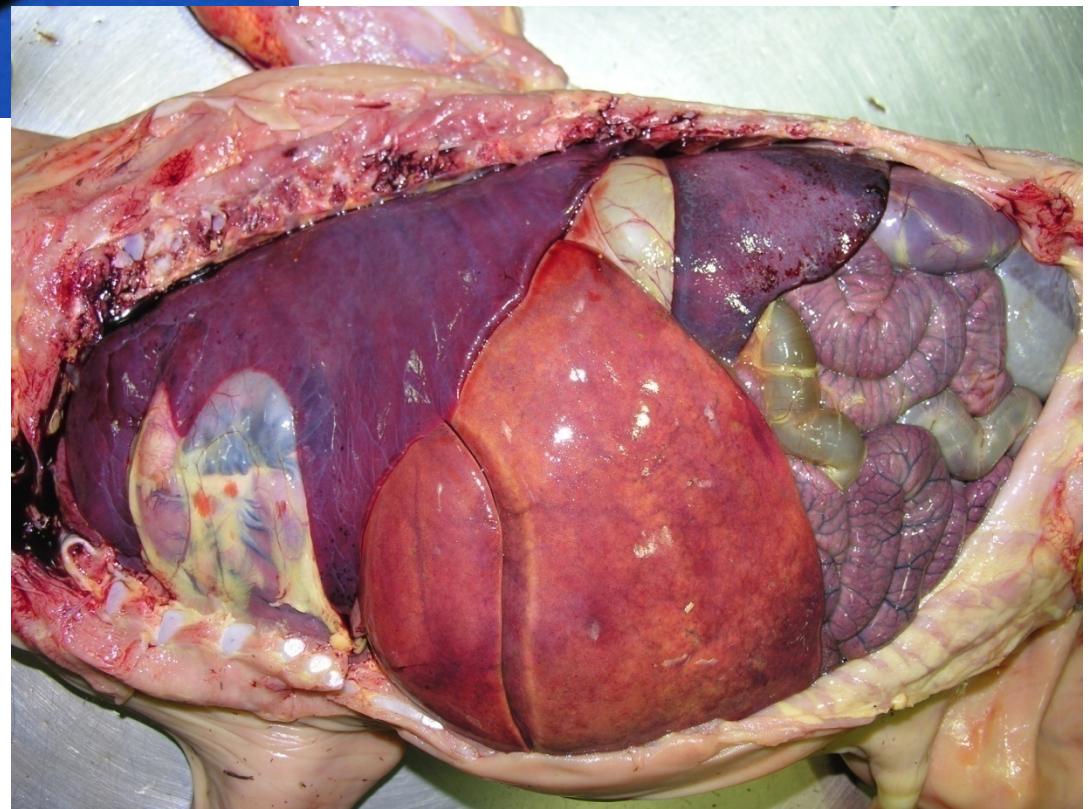
- What is the difference?
 - Timing
 - Viability

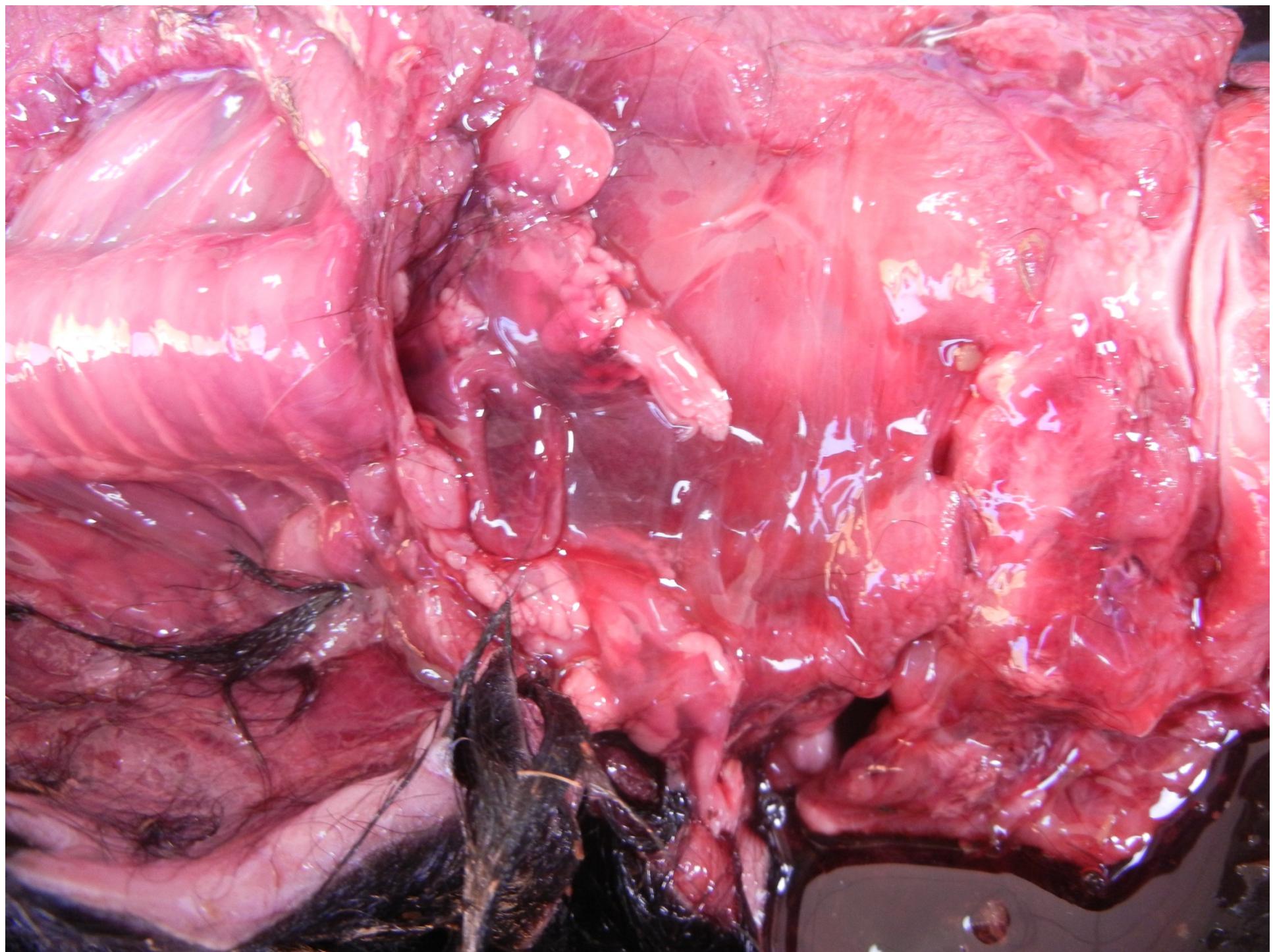
MAJOR cause of stillbirth:
DYSTOCIA

How to diagnose dystocia????

Born alive or dead?











Reasons for Fetal Loss

- Malnutrition
- Trauma
- Hormonal
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- INFECTIONS

Abortion - Infectious

- Bacteria, fungus, protozoa – usually infect the PLACENTA
- Viruses – usually pass right through the placenta and into the FETUS

Fetus dies with infection for only two possible reasons –

- Infection enters fetus to kill tissue
- Infection causes placenta to be insufficient so fetus dies due to lack of nutrients

Diagram the ruminant fetus inside the uterus – how does it receive nutrition (blood supply?)

ACTIVITY – NOW!

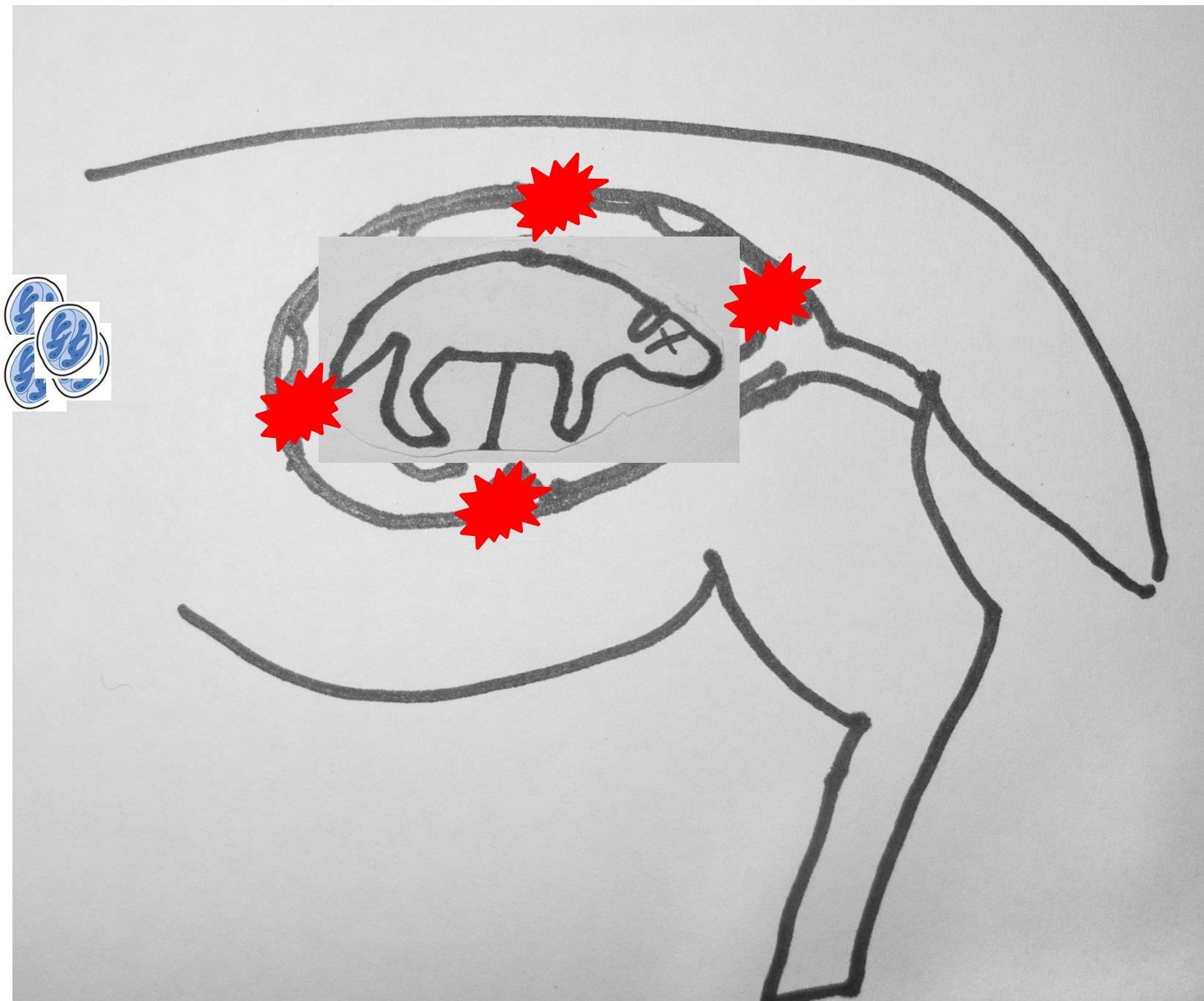
Sheep and goats

- *Brucella melitensis*
- *Chlamydophila abortus*
- *Toxoplasma gondii*
- *Campylobacter*
- *Q fever*









Why did the fetus die? (PATHOGENESIS)

Pregnant mom picks up *Toxoplasma* from cat feces. She is NOT sick.



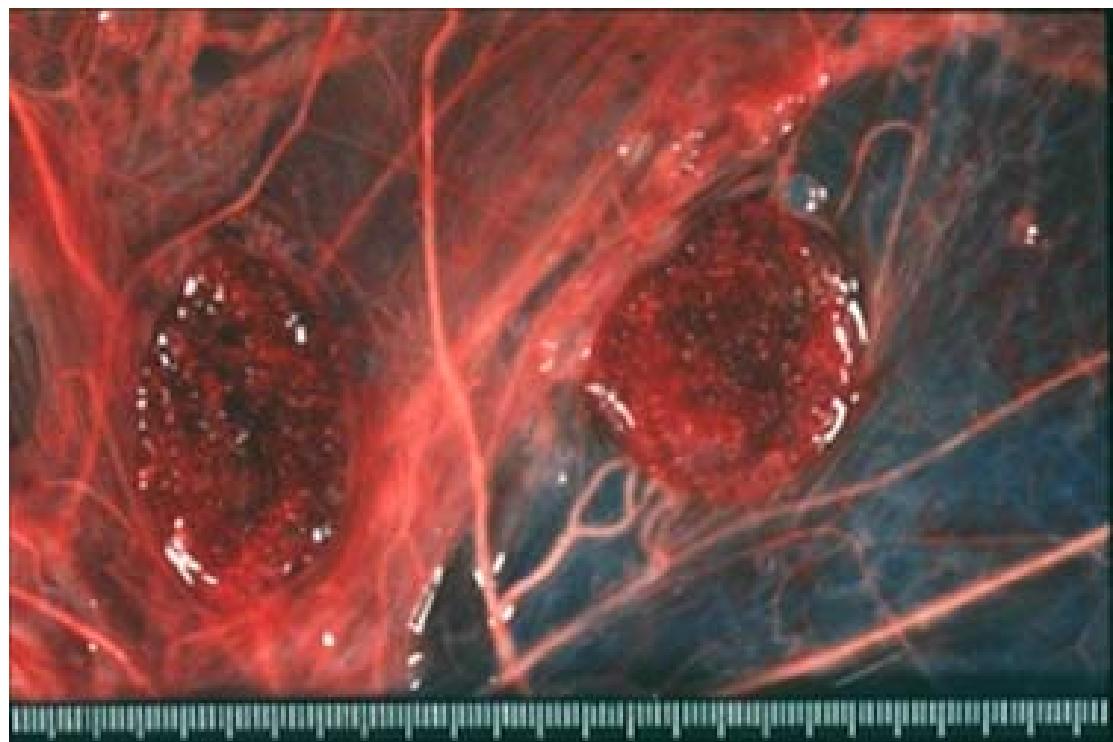
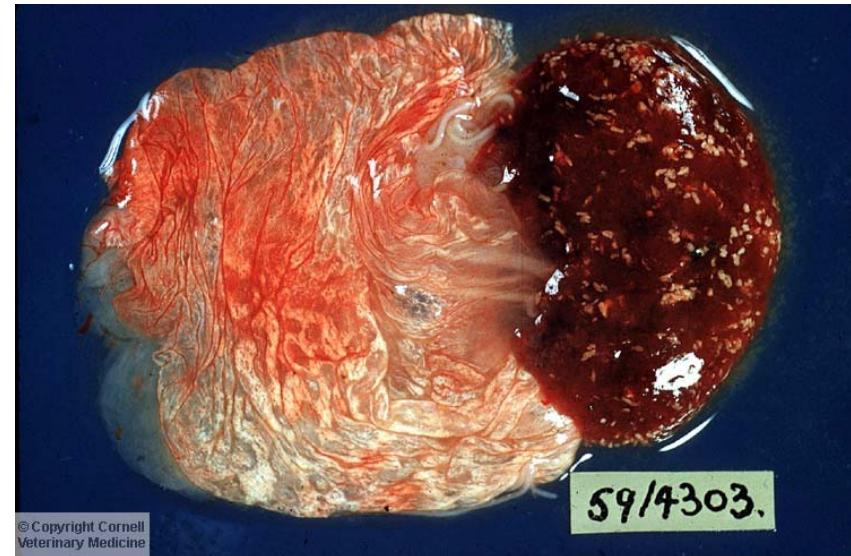
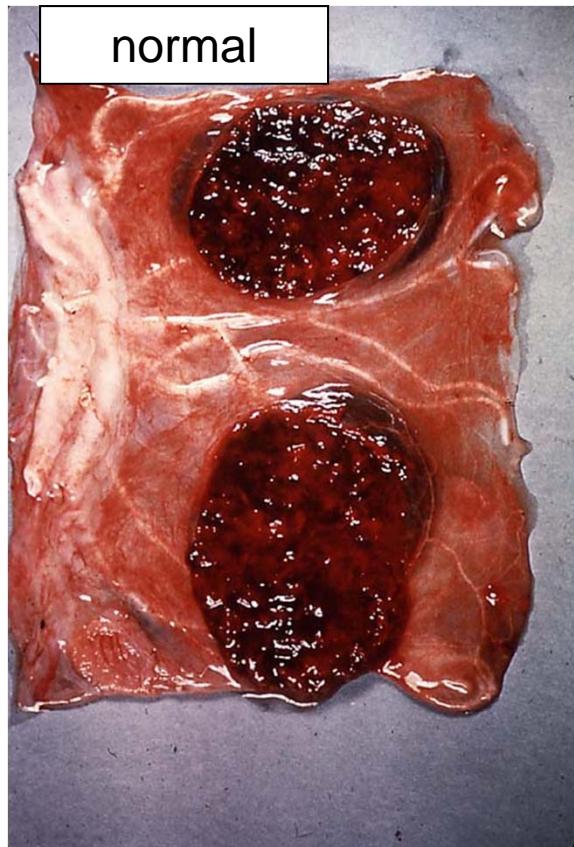
Toxoplasma finds placenta (cotyledons) very nice place to grow → →
NECROSIS

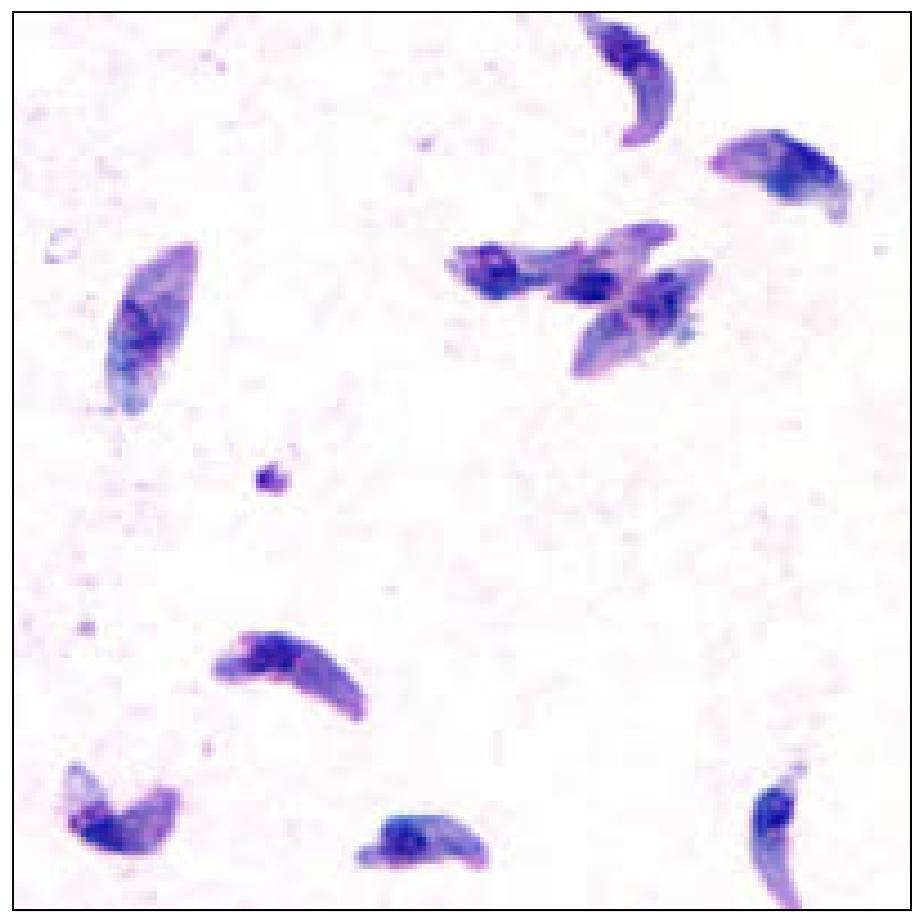
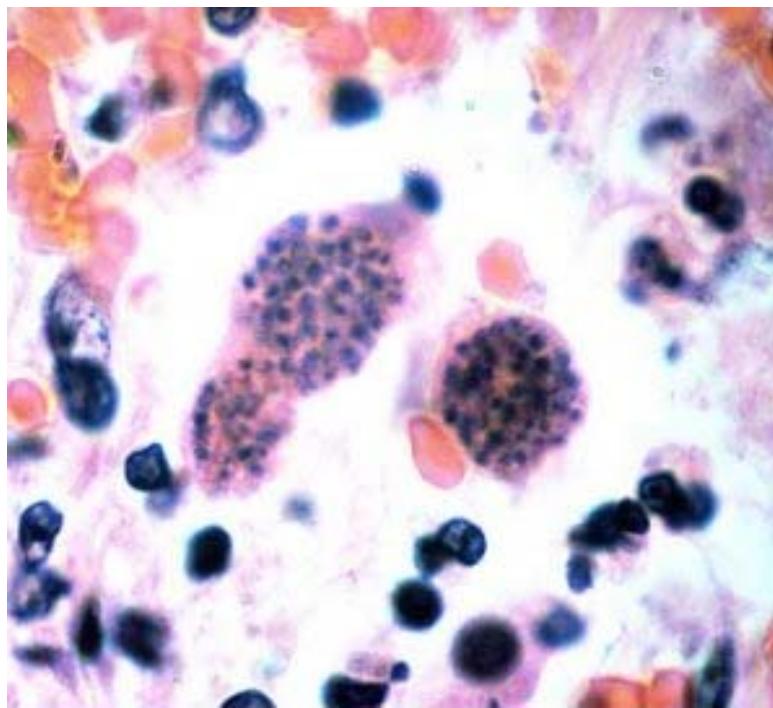
fetus does not get nutrients it needs → →

DEATH OF FETUS

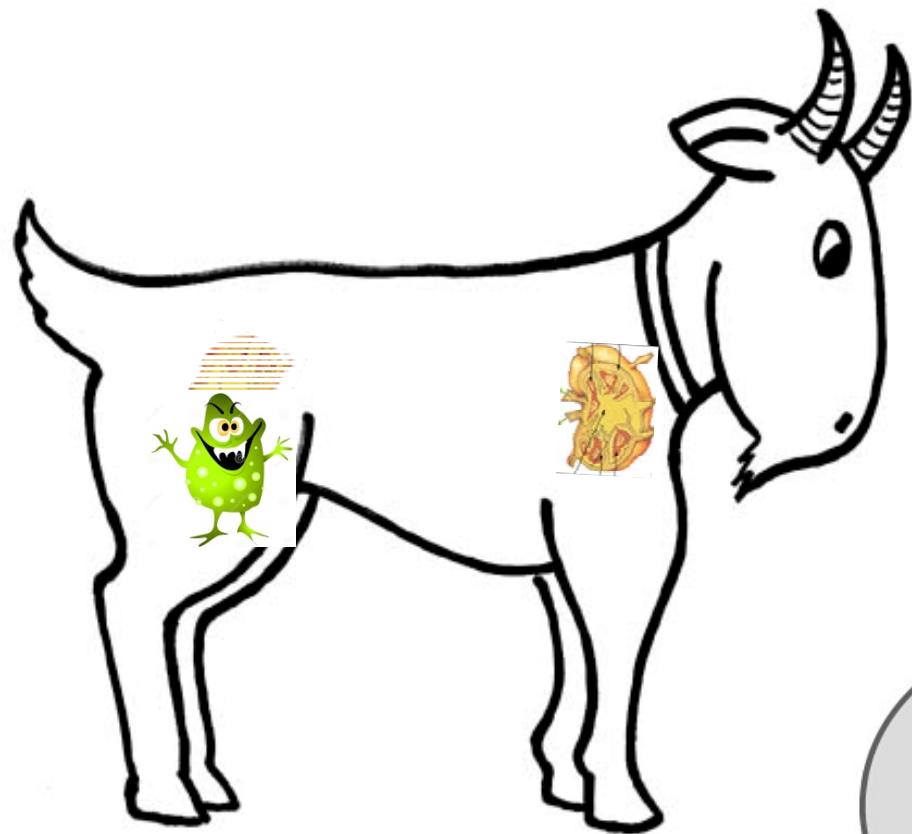
MOM IS FINE, COTYLEDONARY NECROSIS

Toxoplasma

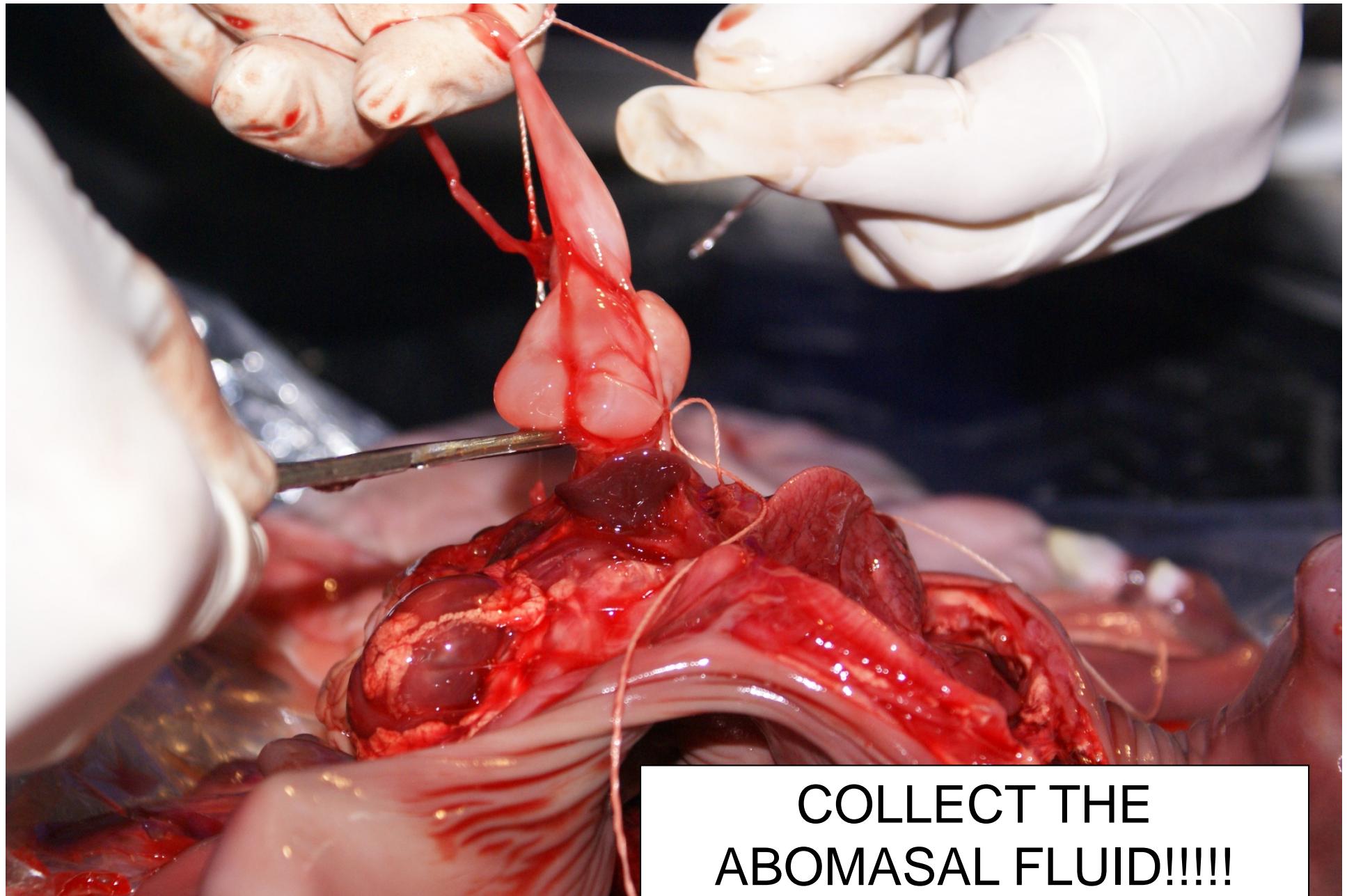






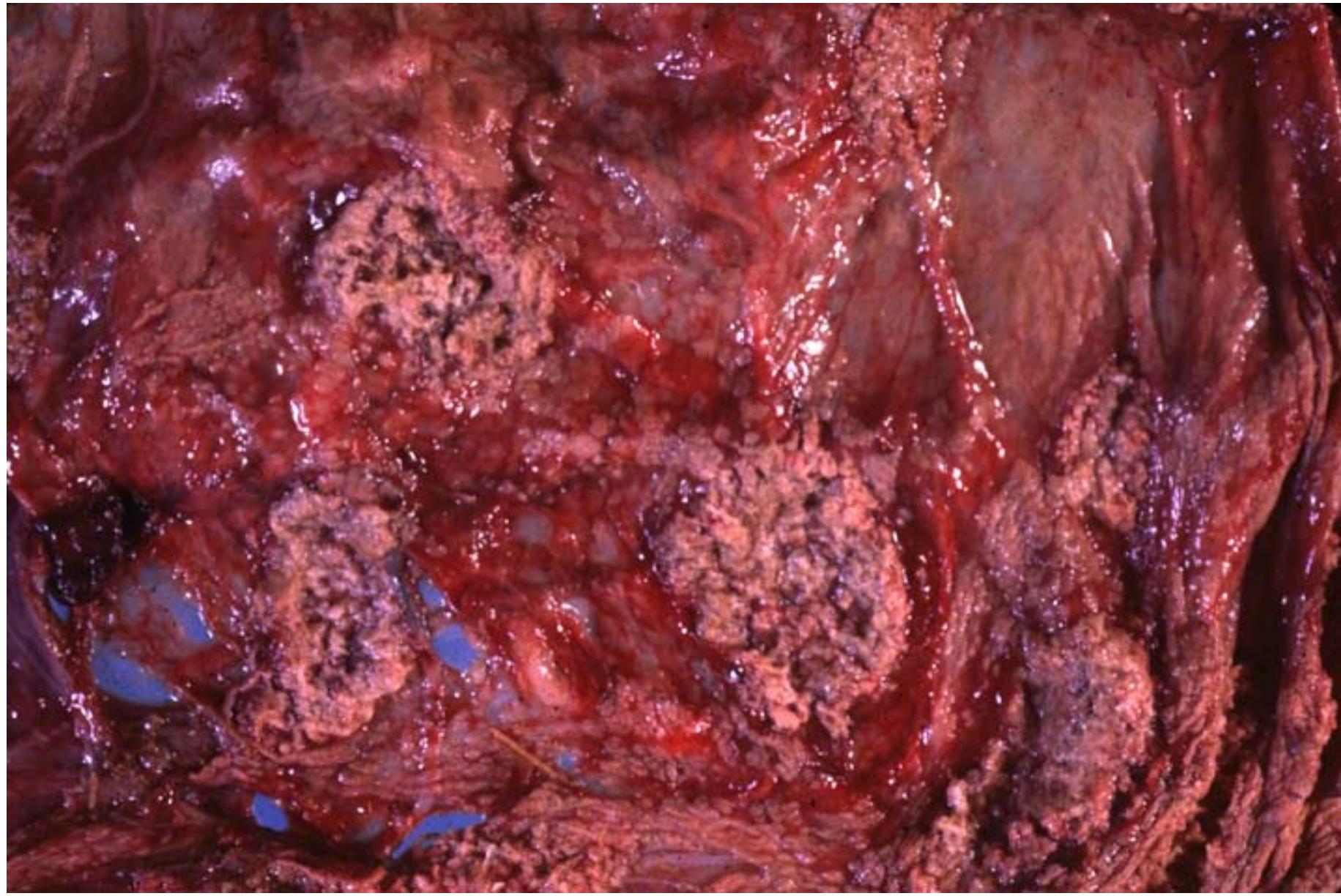






**COLLECT THE
ABOMASAL FLUID!!!!**







Remember BIOSAFETY!!!!

Why did the fetus die? (PATHOGENESIS)



Dam is infected with *Brucella*

Brucella periodically ventures outside of cells to circulate. If it finds the placenta, it goes WILD (ERYTHRITOL) → → replication, inflammation of both cotyledons AND intercotyledonary areas PLUS fetal infection, especially LUNGS

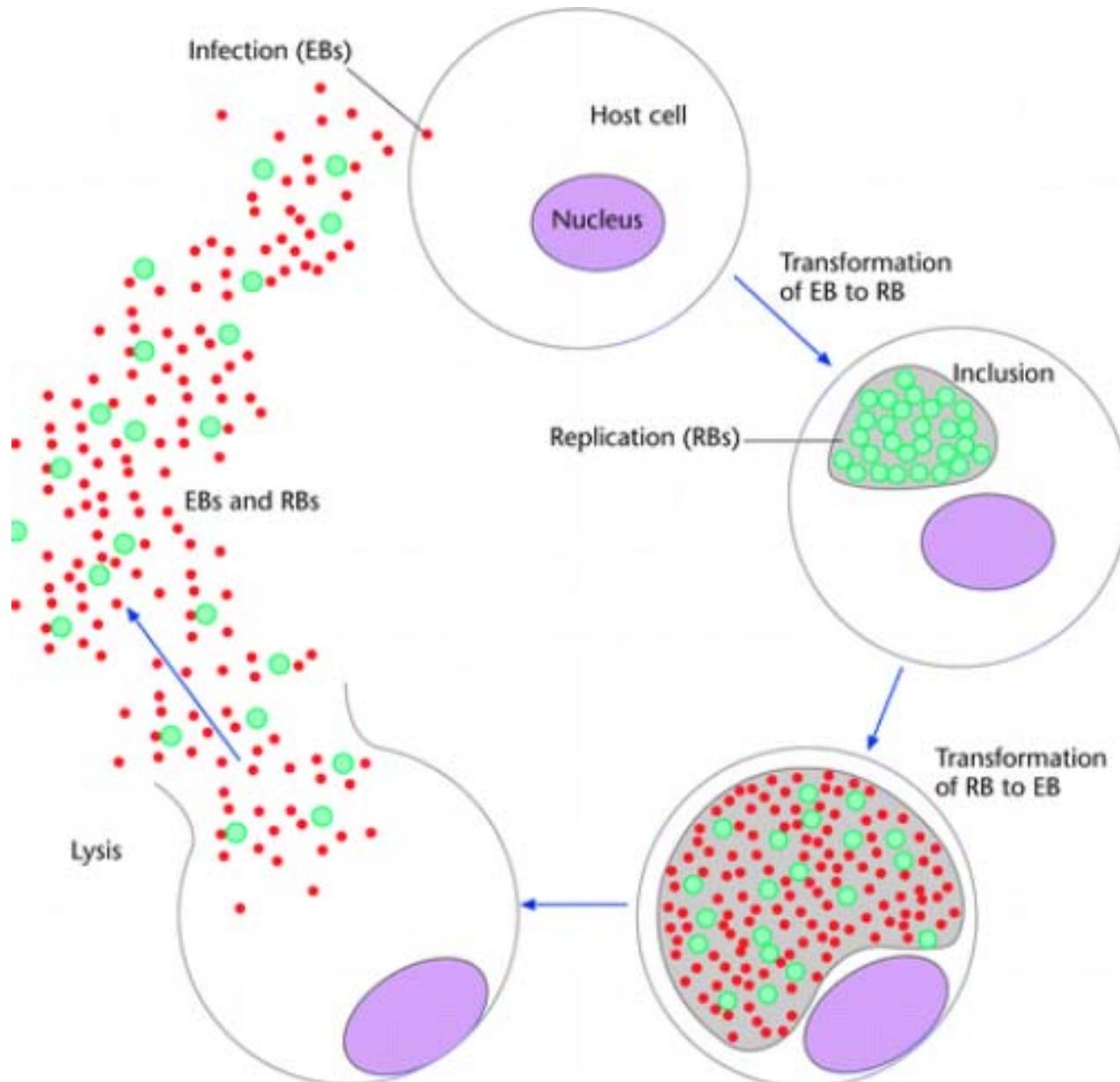
fetus does not get nutrients it needs → →

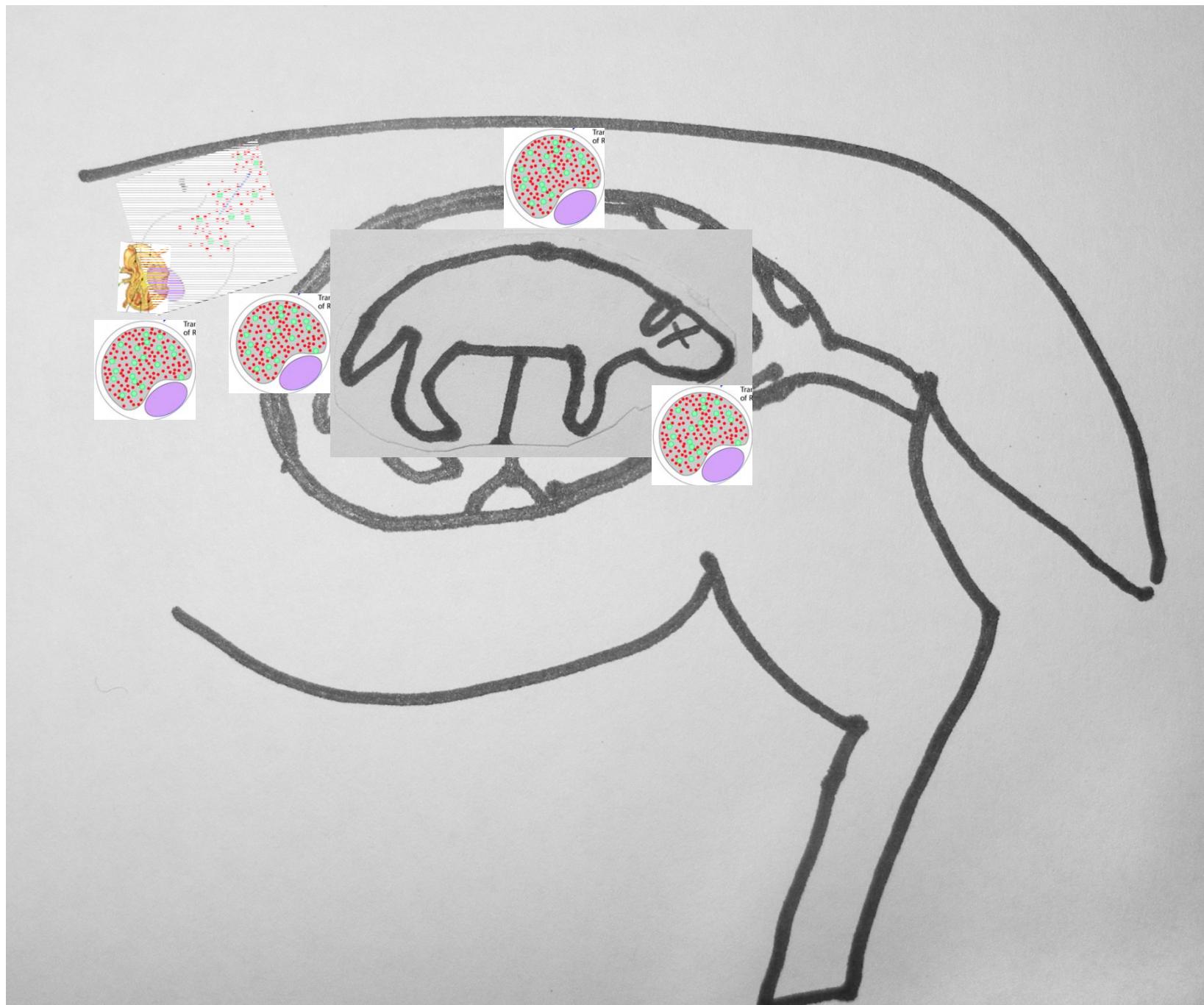
DEATH OF FETUS

PLACENTITIS, FETAL PNEUMONIA



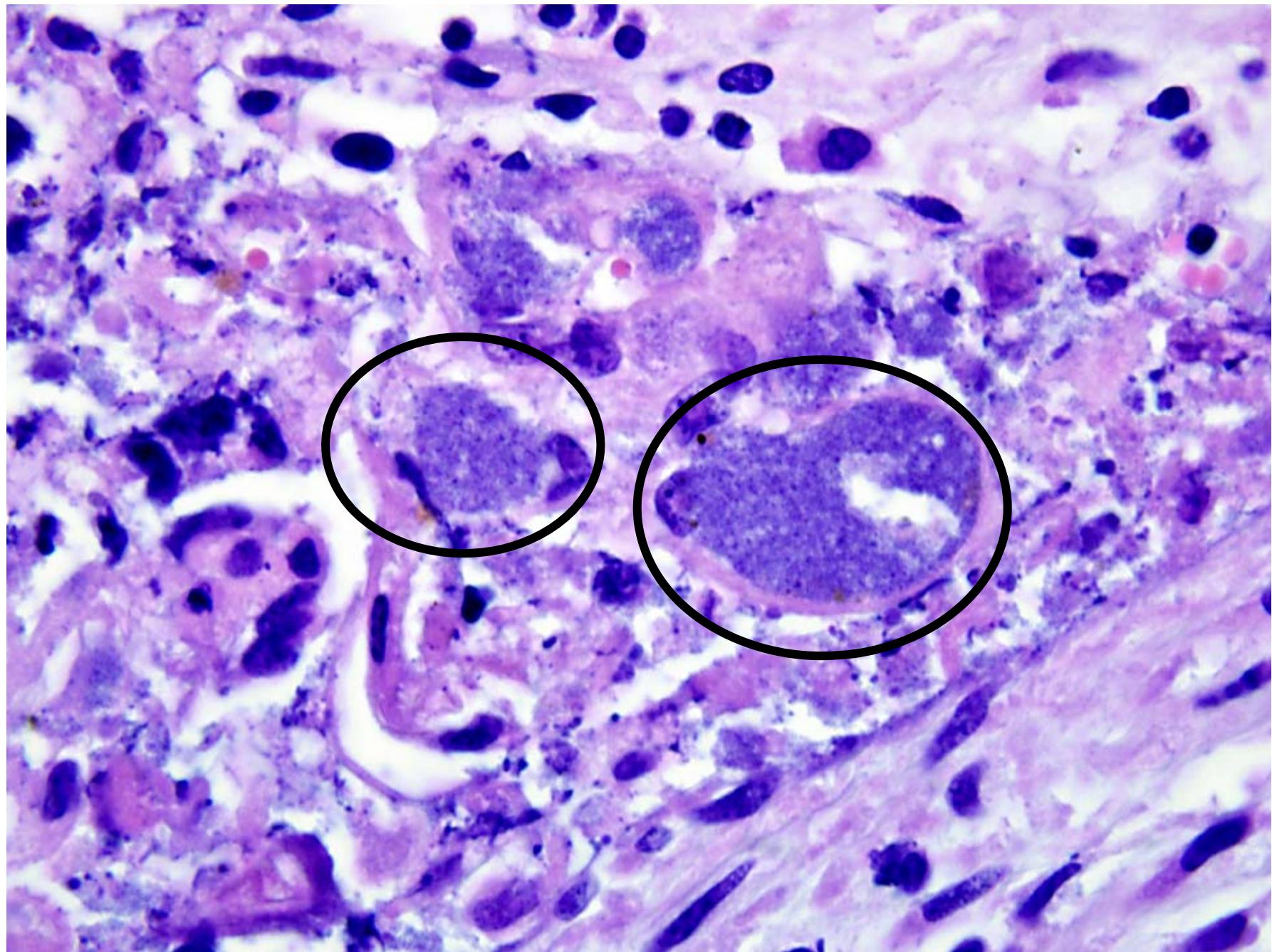
Remember BIOSAFETY!!!!

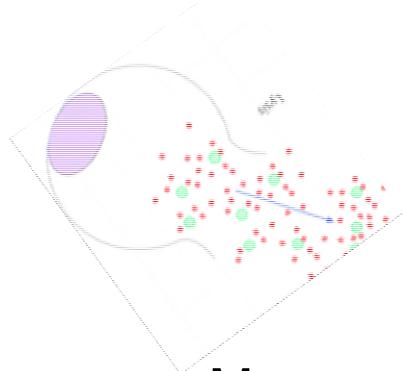












Why did the fetus die? (PATHOGENESIS)

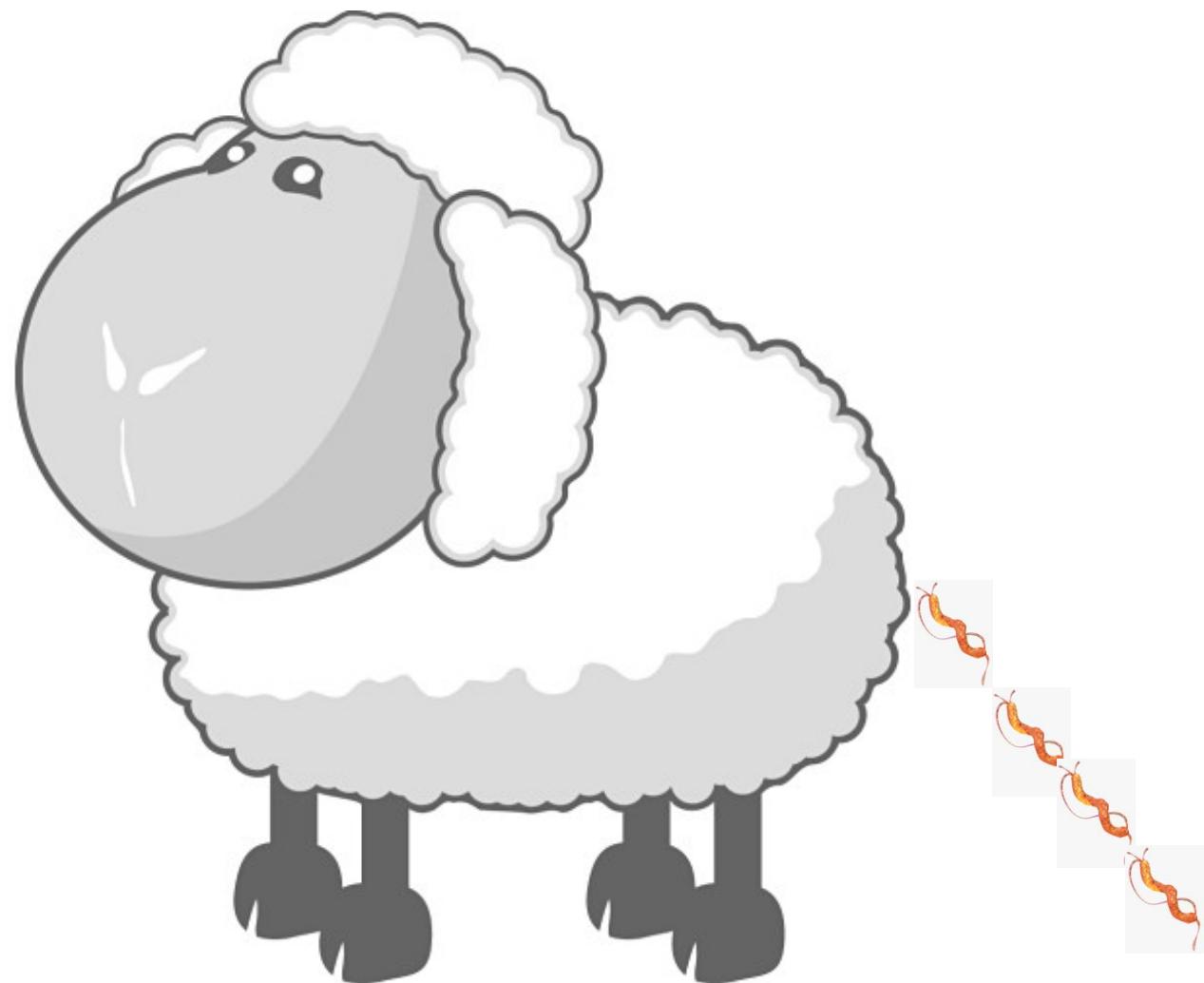
Mom was infected with *Chlamydophila*. Organisms survive INSIDE cells. She is NOT sick.

Mom gets pregnant. *Chlamydophila* venture outside of their cells, circulate, FIND THE PLACENTA → →

Chlamydophila grows VERY WELL in TROPHOBLASTS, replicates there, cells LYSE → → NECROSIS → → fetus does not get nutrients it needs

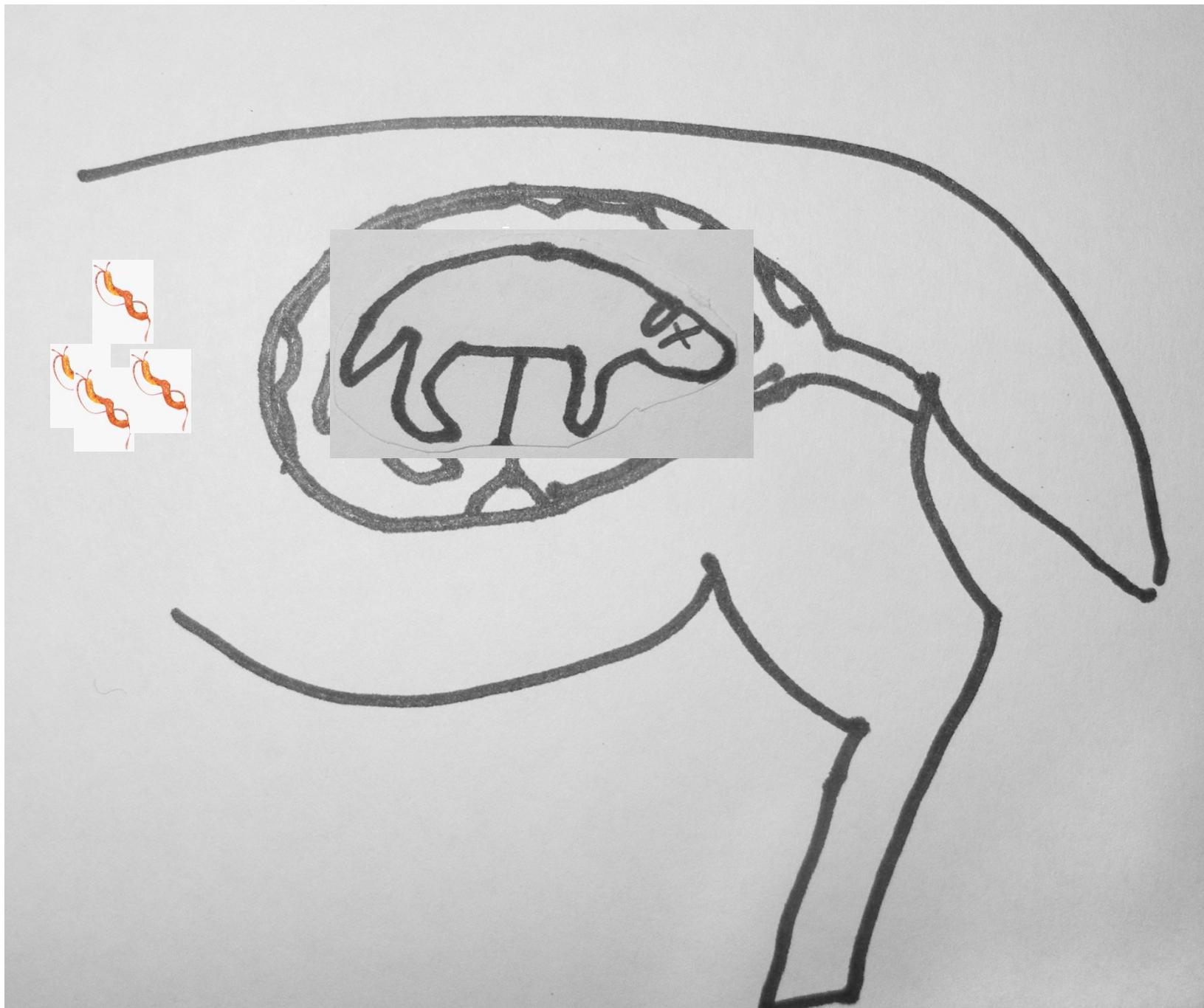
DEATH OF FETUS

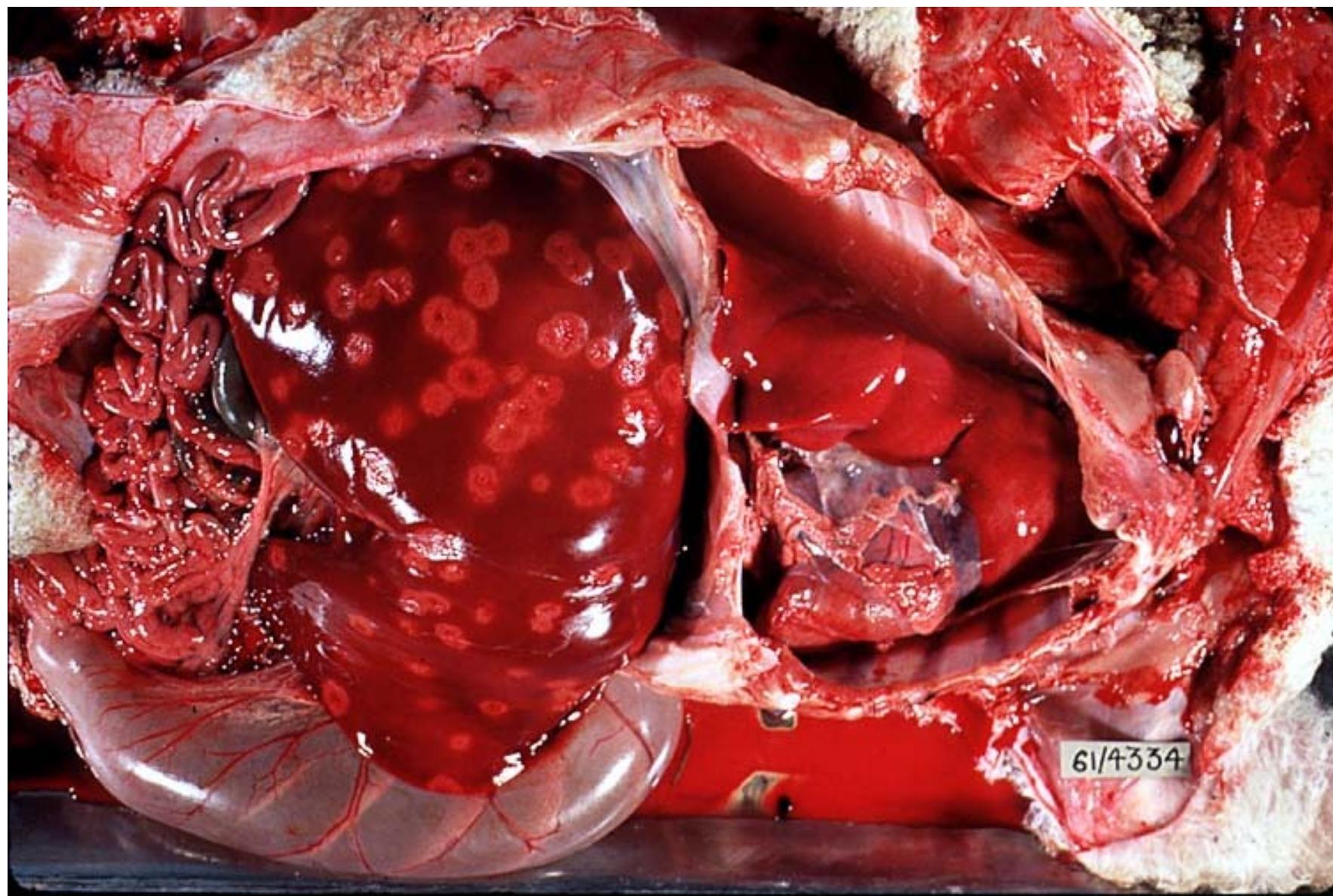
COTYLEDONARY NECROSIS



Campylobacter fetus









Why did the fetus die? (PATHOGENESIS)

Pregnant dam ingested *Campylobacter fetus*, went to placenta and swam on into LIVER → →

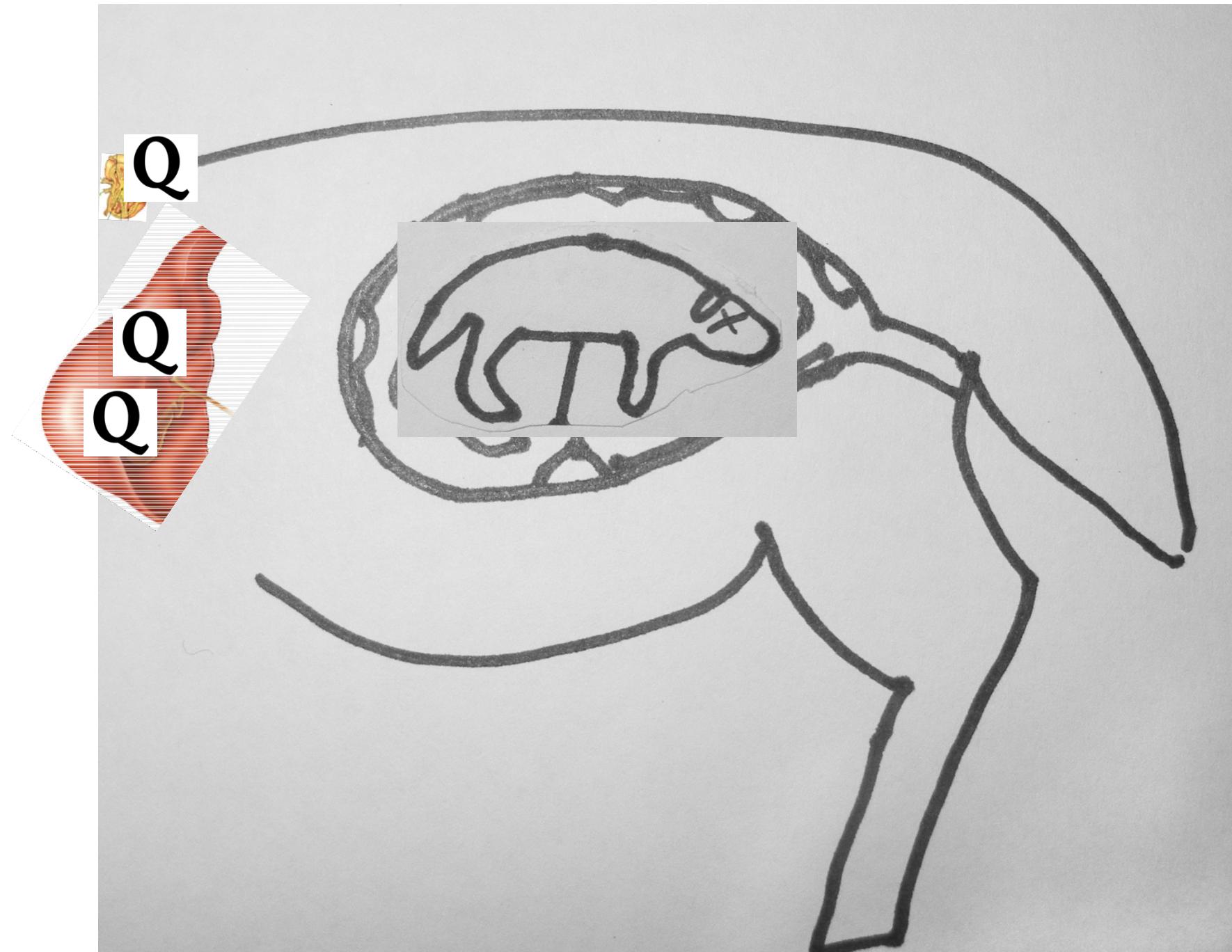
Replicates and causes necrosis in fetal liver → →

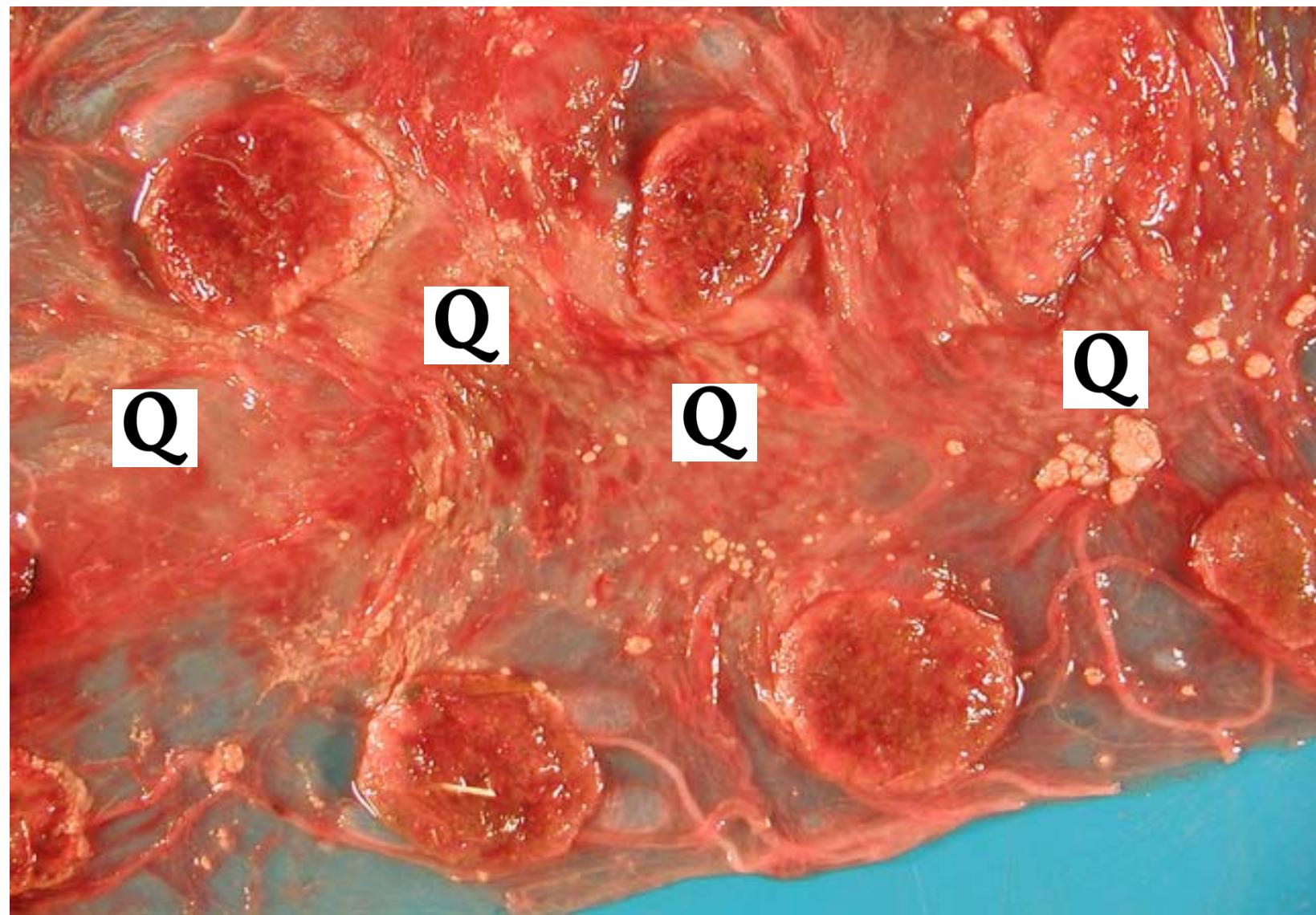
Fetus dies of LIVER FAILURE

DEATH OF FETUS

Placental lesions minimal;
FETAL LIVER NECROSIS

Q







Remember BIOSAFETY!!!!

Sheep and goats

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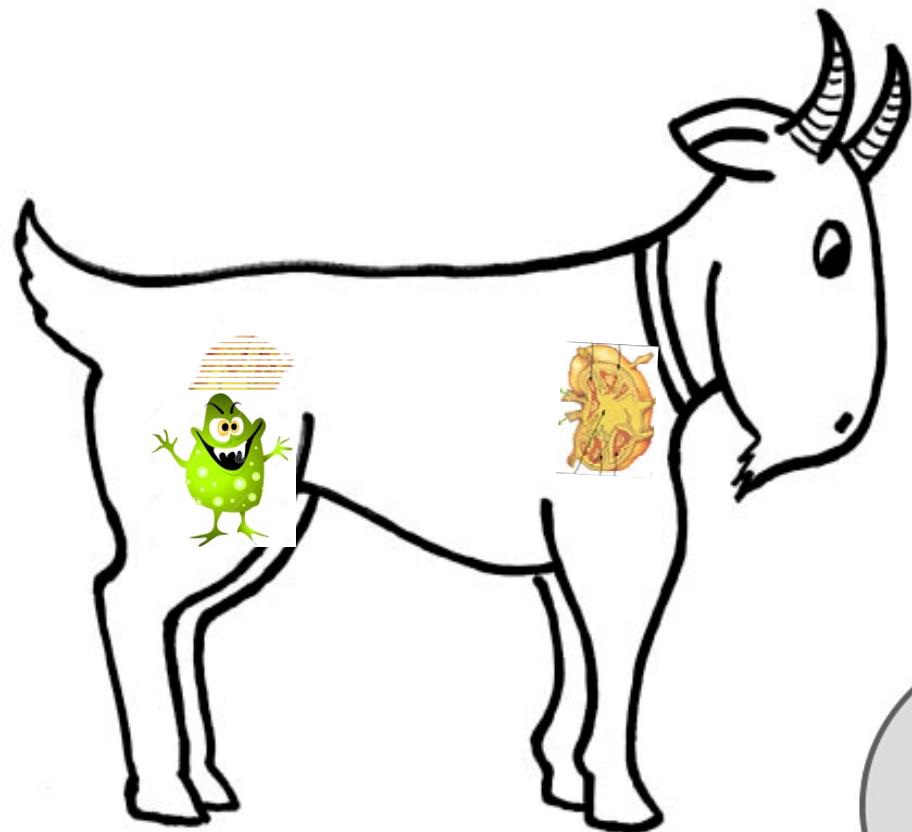
QUIZ TIME!!!!



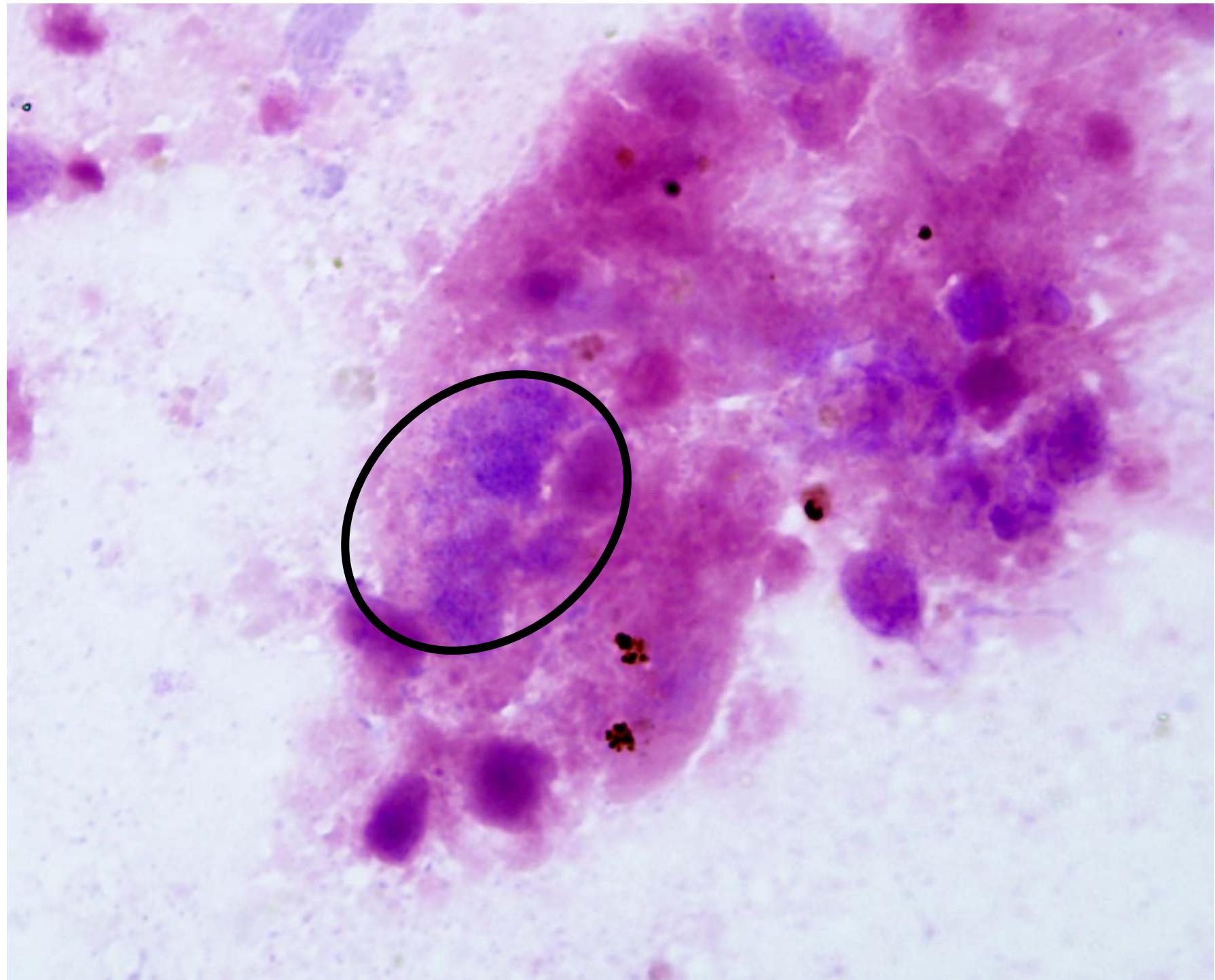
Which are true of BRUCELLA abortions?

- A. It is a zoonotic organism so be careful!!!
- B. The organism goes straight through to kill the fetus so there are no placental lesions
- C. The fetus dies because of the placenta fails to transfer nutrients (placentitis)
- D. It is a CHRONIC infection
- E. It is carried by cats





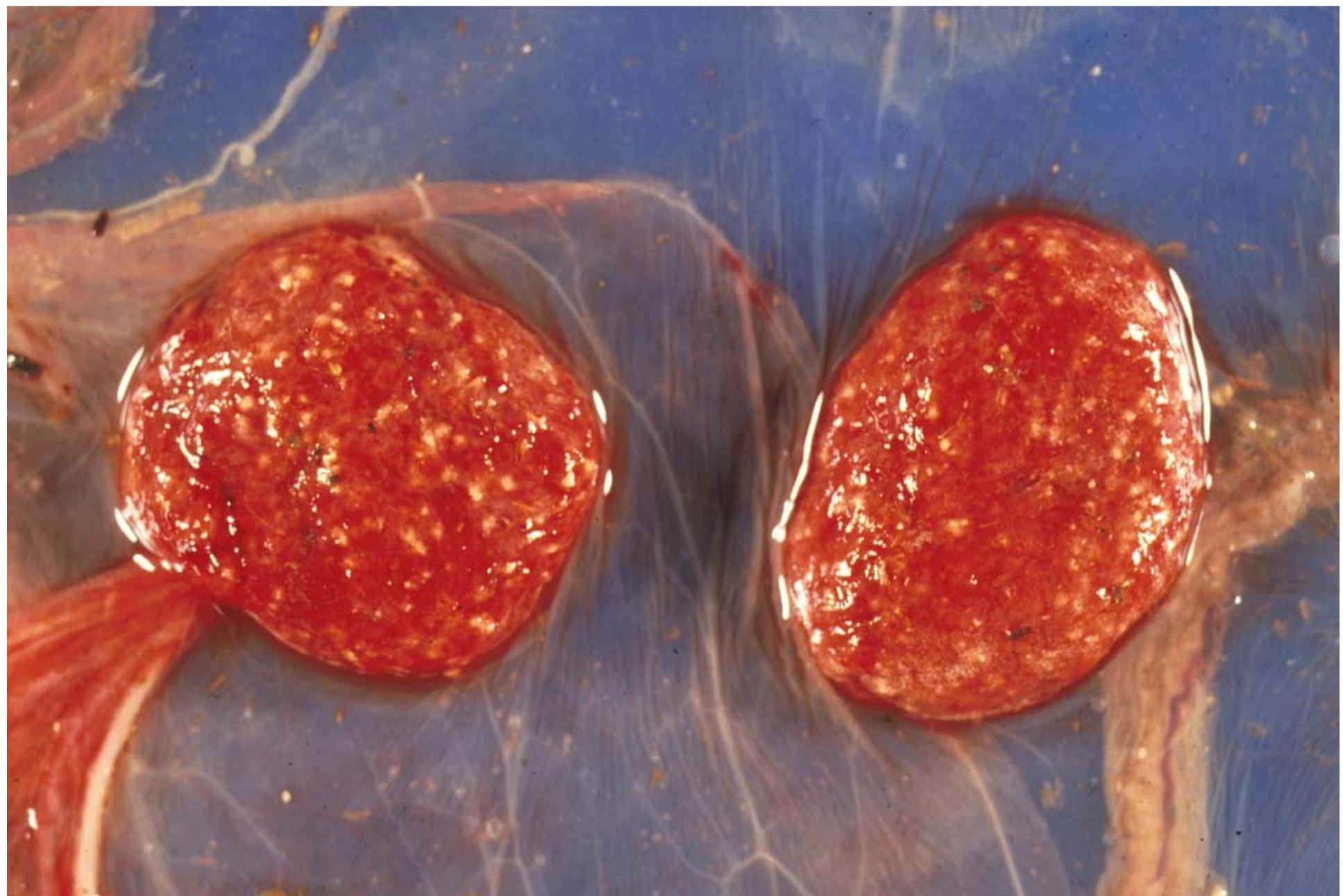


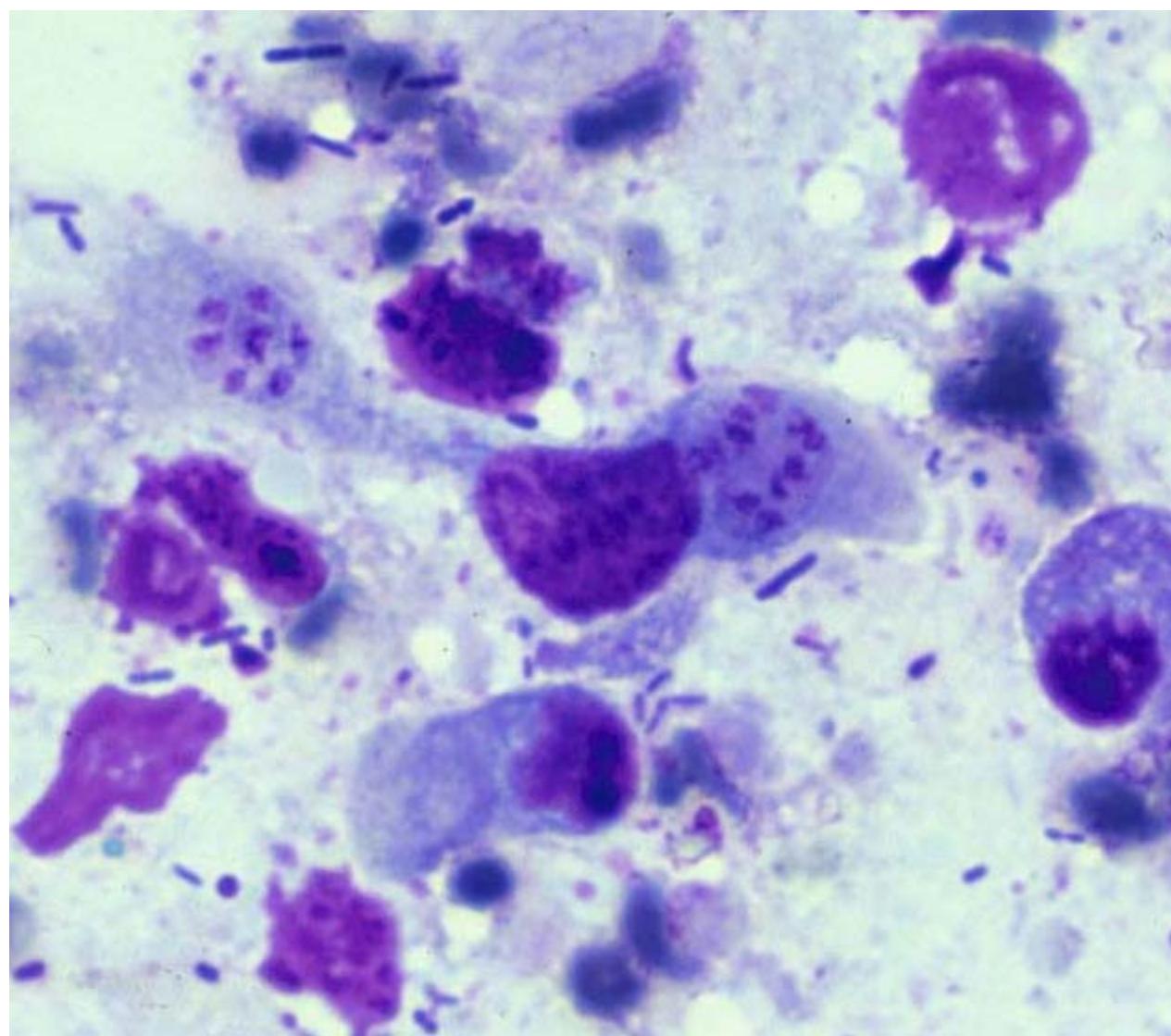


Which are true of CHLAMYDIA abortions?

- A. The fetus dies because of the BAD placental lesions
- B. It is a zoonosis
- C. The organism goes straight through to kill the fetus so there are no placental lesions
- D. It is a CHRONIC infection
- E. It is carried by cats







Which are true of TOXOPLASMA abortions?

- A. The organism goes straight through to kill the fetus so there are no placental lesions
- B. It will also cause fetal pneumonia
-  C. It is carried by cats
-  D. Necrotizing placentitis





