



# REPRODUCTIVE HERD HEALTH

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**ABORTION**

# Abortion

Abortion: 45-270 of pregnancy. days

Infectious

Non-Infectious



# Infectious abortions

- **BACTERIAL REASONS**
- **B.abortus, campylobacter fetus, leptospira, listeria**
- **VIRAL REASONS**
- **BHV 1, IBRV, BVD**
- **PROTOZOON SOURCES**
- **Neospora caninum**
- **MYCOTIC SOURCES**

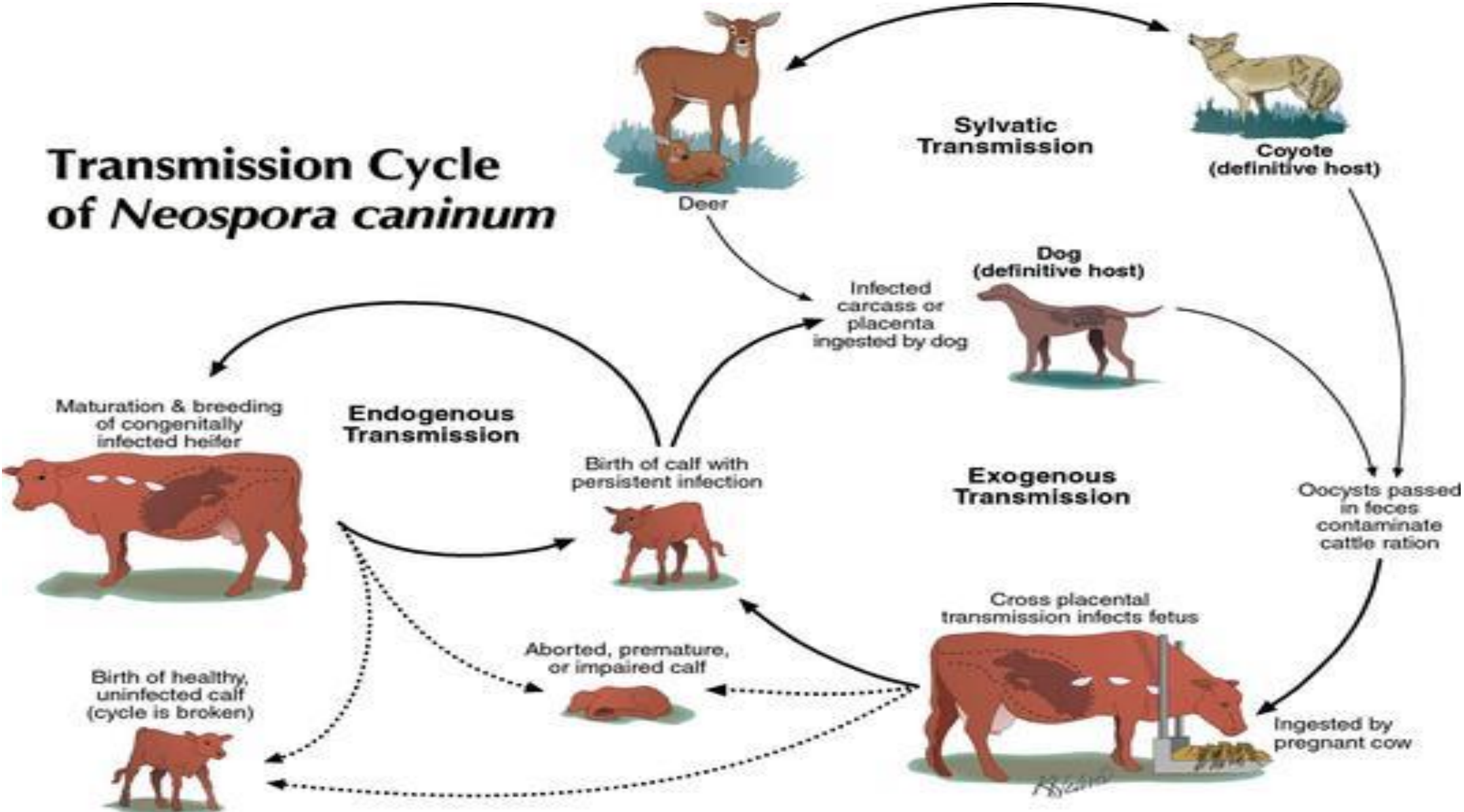
# Specific Abortion Factors

- **Brucella abortus**
- **Leptospira**
  - hardjobovis
  - hardjoprajitro
- **Listeria monocytogenes**
- **BVD**
- **BHV1**



# Neosporosis

## Transmission Cycle of *Neospora caninum*



# Neosporosis

Infection Days	14. day	46.dat	60. Day and later
Antibody Response	ANTIBODY PRODUCTION BEGINS	ANTIBODY PRODUCTION	ANTIBODIES CANNOT BE DETERMINED IN THE BLOOD

**SPORADIC ABORTUS**

**WIDE ABORTUS**

**REPEATS ABORTUS**

# Neosporosis

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## Under the Influence of Neosporosis

Resorption of the embryo can be formed.

Mumification cases can be seen.

Live puppies can be born.

- **Infected calves;**
  - **ataxia**
  - **Weakness in reflexes**
- **Exophthalmos may be seen.**



# Neosporosis diagnostic methods

Diagnosis method	Morbid substance
IFAT	Blood serum and milk
ELISA	Blood serum and milk
Histological Examination	Lesions in the Brain (Fetus)
PCR	Fetal tissue and fluids

# Brucellosis

## Factor: B.abortus

- The causative agent is intracellular pathogen.
- It usually enters the body orally.
- House flies (*Musca domestica*) are effective in spreading infection.
- Abortion can be seen within 2 weeks-5 months after infection.

# Brusellosis

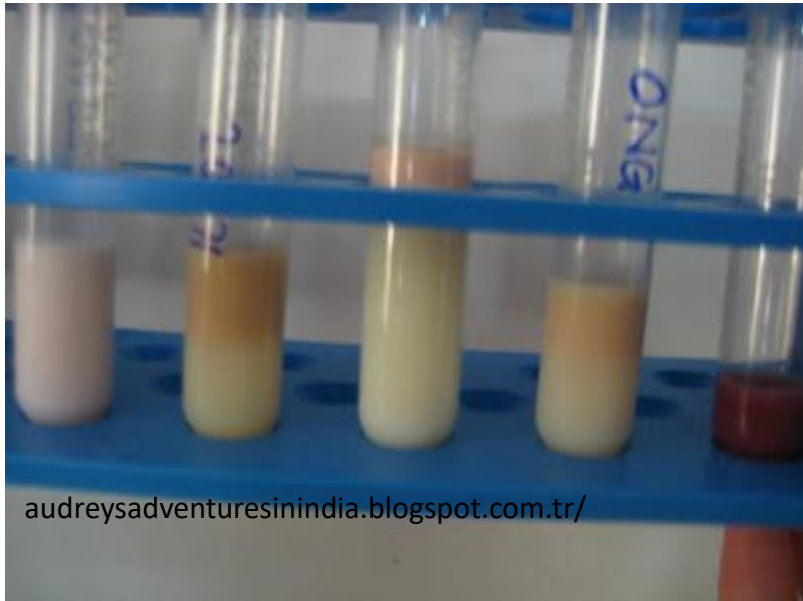
- Source:
  - Waste fetuses-placentas
  - Uterine currents
  - Milk-urine-semen-feces.
- 
- The agent can survive at high humidity and low ambient temperatures.



# Brusellosis

## Diagnosis

- Blood serum and milk samples can be taken for serological testing purposes.
- Milk samples should be taken from each breast lobe.
- Abort material should be sent to lab in cold chain.



# Brusellosis

## Protection

- Calves and pregnant heifers should be vaccinated.
- Use of infected semen should be avoided.
- Live vaccines should not be used in pregnant women.
- S19
- 45/20
- RB51
- Disinfection should be considered.
- Biosecurity is important.

# Leptospirosis

## Hardjobovis-Hardjoprajitro

## Clinical Forms

- Udder Form
- Sudden decrease in milk yield.
- Loose Breast
- Colostrum-like secretion
- Sometimes bloody milk



- Abortion Form
- It happens in the second half of pregnancy.
- Udder form can be seen together
- Normal looking fetus



# Infection spread of leptospirosis abortions

- Contamination (cow-sourced)
- Pee
- Abortion Fetus
- Uterine discharge
- Transition from bull with semen
- Sheep-induced contamination
- grassland
- Drinking water



<http://www.nadis.org.uk/bulletins/leptospirosis-in-cattle.aspx>



# Leptospirosis Abortion Treatment-Prevention

- Antibiotic therapy
- Dihydrostreptomycin (25mg / kg)
- Amoxicillin (15mg / kg)

- Vaccination programs
- Type-specific vaccines available
- Vaccination from age 5 months
- 2 doses of vaccine at least 4 weeks apart
- Vaccines prevent abortion but bacterial scatter continues



# Listeriosis Abortions

## Listeria monocytogenes

- Microorganism;
- 3- 45 ° C
- It can grow between pH 5.6 and 9.6.
- It is originated from soil and digestive system.
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- It usually causes sporadic abortion.



# Listeriosis Abortion

Listeria monocytogenes

# Transmissions

the INHALATION



DIRECT CONTACT



DIGESTIVE SYSTEM

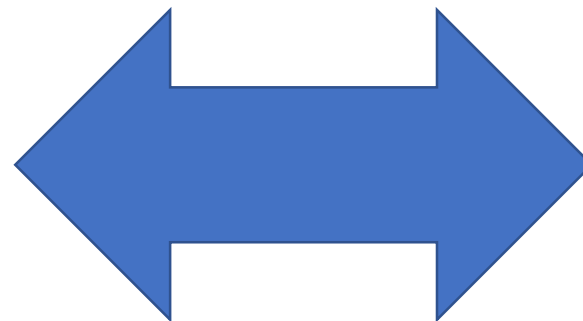
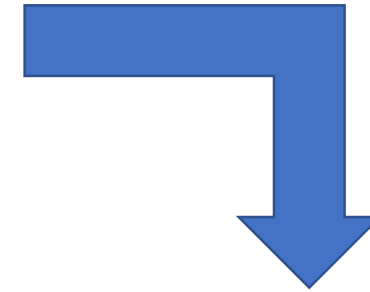
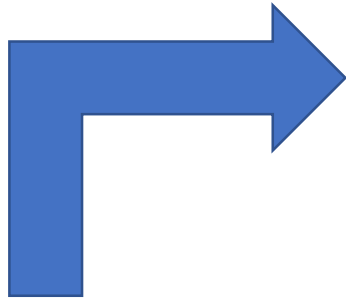


VENERAL TRANSMISSION



# Listeriosis Abortions

## Listeria monocytogenes





# Diagnosis of Listeriosis Abortions

- Fetus;
- otolitic
- Non-specific disorders
- Fetal septicemia is seen.



<http://www.nadis.org.uk>

# BVD-MD Abortions

- Factor: Pestivirus family
- Medicine:
- Type 1: Non Cytopathic → Common cause of disease
- Type 2: Cytopathic → Virulence High-Superinfection
- Reservoir:
- Wild animals like deer
- Persistent Infected Animals
- IBR-Parainfluenza-RSV.

# BVD-MD Abortions Clinical Forms

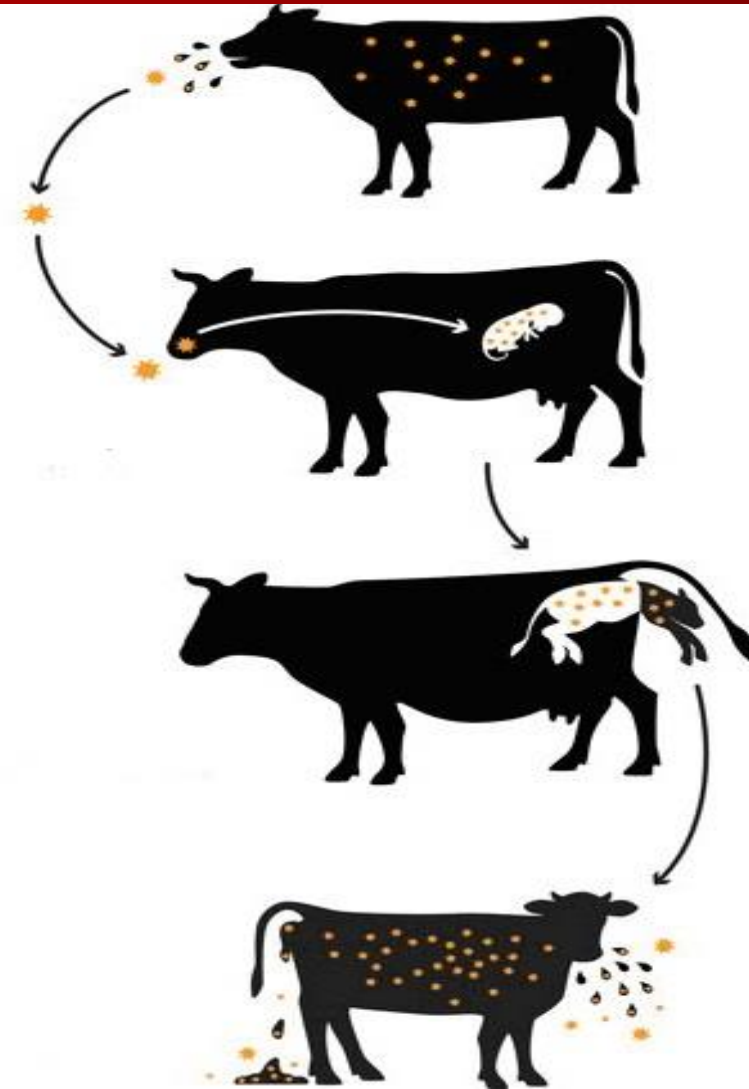
- Digestive system form
- Diarrhea
- Gastrointestinal ulceration
- Respiratory tract infection
- thrombocytopenia

- Reproductive system form
- Early embryonic death
- the mummification
- Abortions
- Infertility

# BVD-MD Abortion Pathogenesis

- Infection Source:
- Persistent Infected Animals
- Nature

Horizontal  
transmission




# IBR Abortions , Bovine Herpes Virus 1

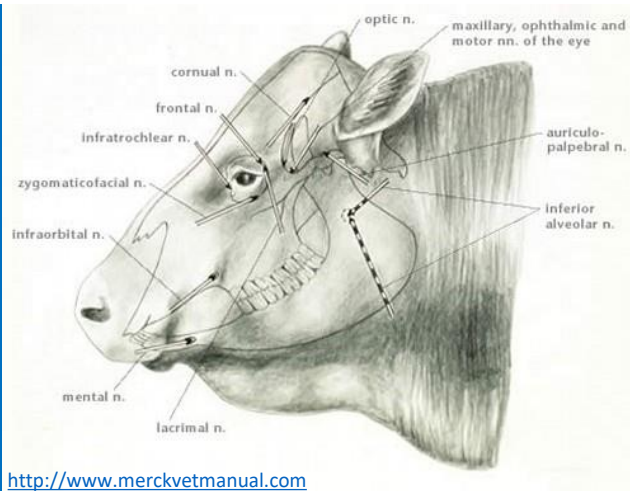
- Factor: Herpesvirus family
- BHV 1 has two subtypes.
- IBR
- They cause IPV.
- The incubation period varies between 10-20 days.
- Herpesviruses are in latent form and are reactivated as a result of immunosuppression.



# BVD-MD Abortions Bovine Viral Diarrhea Virus

- Diagnostic Methods
  - Virus detection in fetal fluids PCR (DNA isolation)
  - Blood sample in EDTA tubes
  - Nasopharyngeal swap ELISA (Antibody)
  - Antibody level in tank milk
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- If an infected animal is found in the herd, blood samples must be taken twice from the whole flock at 6-week intervals and sent to the laboratory.

# IBR Abortions Bovine Herpes Virus 1



- Corticosteroid injections stimulate virus scattering.
- Latent infection can be found in 10% of clinically normal animals.

# IBR Abortions Bovine Herpes Virus 1

- The disease can occur in 5 forms.
- Respiratory System Form
- Reproductive System Form
- Generalize / Alimenter Form
- Encephalitic Form
- Other