

## Chapter 10 - Lesson 3



# *Infectious Diseases: Respiratory & Reproductive Systems*

### *Nasal Passages and Sinuses*

Rhinitis is an inflammation of the mucous membranes of the nasal passages, and sinusitis is the inflammation of sinuses. These conditions can be either acute or chronic. Bacterial infections may occur following an acute viral infection or after exposure to inclement weather. Conjunctivitis (inflammation of eyelids) often accompanies rhinitis and sinusitis.

Affected tissues may become red and swollen and produce a mucoid or mucopurulent nasal discharge. In addition drainage from the nostrils, open-mouth breathing and sneezing are also common signs of a respiratory infection. Strangles in horses is caused by a streptococcus bacterium and is an inflammation of the sinuses and nasal passages that may include abscessation of associated lymph nodes.

### *Tonsils*

Tonsillitis is the inflammation of the tonsils. This condition is common in dogs and rare in cats. The bacterial infection causes the tonsils to swell resulting in gagging, retching, soft coughing, and expulsion of mucus.

### *Lungs*

Pneumonitis is an acute or chronic inflammation of the lung tissue and air passages. Symptoms include a deep cough and difficult breathing.

Viral and bacterial infections of the lungs are contagious and can produce severe damage resulting in



*Conjunctivitis is an inflammation of the eyelids.*



*Canine distemper.*

pneumonia with congestion, hemorrhage, mucus, edema, and emphysema of lung tissue and air sacs. Bacteria commonly complicate viral lung infections by causing collection of pus in the air sacs.

Infectious bovine rhinotracheitis (IBR), equine rhinopneumonitis, equine influenza, swine influenza, canine distemper, feline viral rhinotracheitis (FVR), feline calicivirus (FCV), fowl infectious bronchitis,

fowl infectious laryngotracheitis (LT), and avian influenza (AI) are viral diseases of the respiratory system. Pasteurellosis in cattle, swine pneumonitis, feline pneumonitis, and canine infectious tracheobronchitis (kennel cough) are bacterial lung diseases.

Helminth (worm) parasites are also the cause of pneumonitis in various animals. Species of lungworms in horses, cattle, sheep and goats cause coughing in young animals.

## *Uterus*

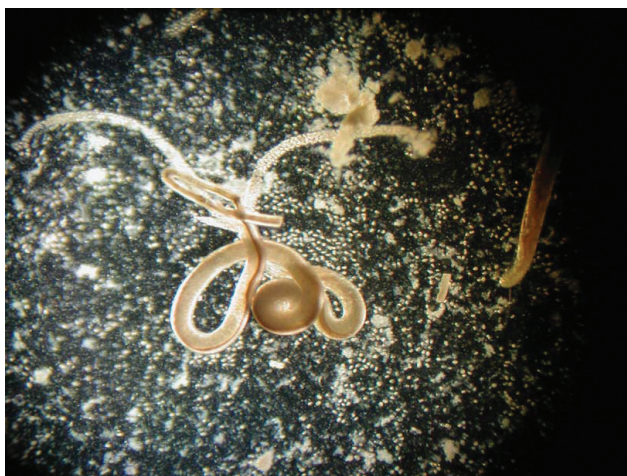
Metritis is an inflammation of the uterus (womb) due to bacterial, viral, and protozoal infections. Persistent metritis is an infertility disease that reduces conception rates. Bacterial infection is usually a postpartum (after birth) disorder. If pus is present in a bacterial or protozoal metritis, the condition is called pyometra. Symptoms include a purulent, foul-smelling vaginal discharge.

Uncommonly, metritis occurs following breeding. Infected stallions transmit the bacterial disease, contagious equine metritis (CEM), to mares and infected bulls transmit the protozoal disease, genital trichomoniasis, to heifers and cows during breeding.

Other abnormal conditions associated with uterus are abortion (premature birth) and retained placenta (afterbirth). Abortion is the premature expelling of a fetus by a pregnant female. It can also mean the early termination of pregnancy due to embryonic death. Retained placenta is a condition when the placenta is not passed after the birthing process.

Infectious organisms may cause termination of a pregnancy by attacking the fetus, placenta, or uterus. Transmission occurs through ingestion, inhalation, or intravaginal.

Examples of bacterial diseases that cause abortion are brucellosis, leptospirosis, and campylobacteriosis (vibriosis); viral diseases include swine parvovirus, infectious bovine rhinotracheitis (IBR), bovine viral diarrhea (BVD), swine pseudorabies, and equine rhinopneumonitis; and protozoal diseases include bovine neosporosis and bovine trichomoniasis.



*Metastrongylus*: Lungworm nematodes in pigs causing verminous bronchitis.

Laboratory testing of blood, fetal and placental tissues, or uterine, vaginal, and preputial mucus may determine the cause of metritis, pyometra, retained placenta, and abortion.

## *Mammary Glands*

Mastitis is an inflammatory condition involving mammary glands or udder tissue and usually occurs during lactation. Bacterial mastitis may occur from infection of the nipple, through the blood, or from penetrating wounds. Affected mammary glands are usually swollen, warm, and painful. The milk may be hemorrhagic or purulent. Identification of the causative bacteria is confirmed by laboratory cultures and somatic cell counts and California Mastitis Test® (CMT) of the milk

## *Reference*

Kahn, C. M. (Ed.). (2010). *The Merck veterinary manual* (10<sup>th</sup> ed.). Whitehouse Station, NJ: Merck.

## **Questions**

1. Describe the following abnormal conditions:
  - a. Metritis
  - b. Pyometra
  - c. Mastitis
  - d. Abortion
  - e. Retained placenta
2. Name some of the infections protozoa can cause in the reproductive system.
3. Name some of the infections viruses can cause in the reproductive system.
4. Name some of the infections bacteria can cause in the reproductive system.
5. Name some of the infections viruses can cause in the respiratory system.
6. Name some of the infections bacteria can cause in the respiratory system.
7. Name some of the infections parasites can cause in the respiratory system.

8. Three dogs with respiratory infections have different clinical signs. One sneezed, another gags, and another coughs. What tissues are inflamed?  
Sneezing dog: \_\_\_\_\_  
Gagging dog: \_\_\_\_\_  
Coughing dog: \_\_\_\_\_
9. Of the diseases discussed in this lesson, which is likely to be the most contagious among animals?

## **Activities**

1. Observe a variety of animals diagnosed with reproductive infections and record the presence or absence of clinical symptoms.
2. Observe a variety of animals diagnosed with respiratory infections and record the presence or absence of clinical symptoms.

