PAW HEALTH NETWORK INC.

TOXOPLASMOSIS

ABOUT THE DISEASE

Toxoplasma gondii is a single-cell organism (protozoa) that causes a disease called **toxoplasmosis**. It primarily affects feline patients, but other species can act as intermediate hosts, meaning they do not necessarily show disease but may spread the infection. It is suspected that up to 30% of cats and 50% of humans have been exposed to this organism.

Protozoal infections in canine and feline patients can be classified into two main categories:

- Enteric – Those that primarily infect the intestinal tract
    - These are typically cases of coccidiosis and giardiasis
- Multisystemic – Those that can spread throughout the body
    - These are typically cases of **toxoplasmosis** and neosporosis

Toxoplasmosis can spread through ingestion of infected tissues (mice, birds, etc.), ingestion of cysts shed in cat feces, or spread through the placenta to an unborn fetus. Transplacental infection is rarely an issue in canine and feline patients but is of significant concern in pregnant humans. It is because of this that pregnant humans should not handle cat feces, or do so with caution, protection, and clean/sanitary measures.

Several different parasite life stages exist once feline patients are infected:

- Fecal shedding – Occurs shortly after infected tissues or feces are ingested, and often precedes any symptoms.
- Acute (sudden) infection – **Toxoplasmosis** can infect any tissue it comes into contact with, but is often so short-lived, that clinical signs are rarely noticed.
    - In young, at-risk patients, signs may include:
        - Severe internal eye infections (uveitis), glaucoma, or retinal disease and detachment
        - Acute, severe pneumonia with significant distress
        - Muscular inflammation (myositis) with stiff limbs or even muscle loss (atrophy)
        - Seizures, tremors, incoordination, facial nerve paralysis or dysfunction
        - Liver, pancreatic, or intestinal inflammation causing vomiting, abdominal pain, yellow color to skin/eyes/gums (icterus/jaundice), vomiting, or diarrhea
        - Inflammation of the heart (myocarditis), irregular heart rhythm (arrhythmia), or heart failure
        - Still born kittens or aborted pregnancies
- Chronic (ongoing) infection – **Toxoplasma** slowly start to form into large cysts within tissues, most often muscle, brain, and organs. Most patients are life-long carriers while **Toxoplasma** is in the dormant stage. However, on rare circumstances if these cysts rupture, they can acutely cause neurologic symptoms at any age.

OBTAINING A DIAGNOSIS

Several methods of testing exist, but the most reliable is to test for both antibodies (IgM +/- IgG) and proteins (antigen) from a single blood serum sample. The antibody level for IgM will increase 1-2 weeks after exposure, which most often correlates with timing for the acute infection. It also remains high for up to 12 weeks, making it the test of choice for active or recent infections. Although, it may remain high in chronic cases.

Antigen testing can become positive within the first month (1-4 weeks) after exposure and may remain positive for up to one year. Though it does not distinguish between active or past infections.

Fecal testing is often only reliable in the first 1-2 weeks which precedes any symptoms, so testing is not often performed.

TREATMENT

No therapy has been shown to be consistently effective, but approximately 60% of patients will recover with clindamycin, sulfa-drugs, doxycycline, or newer age drugs like azithromycin.

TIPS FOR SUCCESS

- Prevent feline patients from consuming raw meats.
- Clear feces from litter boxes in under 24 hours (**Toxoplasma** needs more than 24 hours to become infectious).
    - Transmission by touching and caring for feline patients is unlikely but be wary of feces.
- Keep all food surfaces clean and free of contamination (counter jumping).