Outcomes of Infection

FeLV

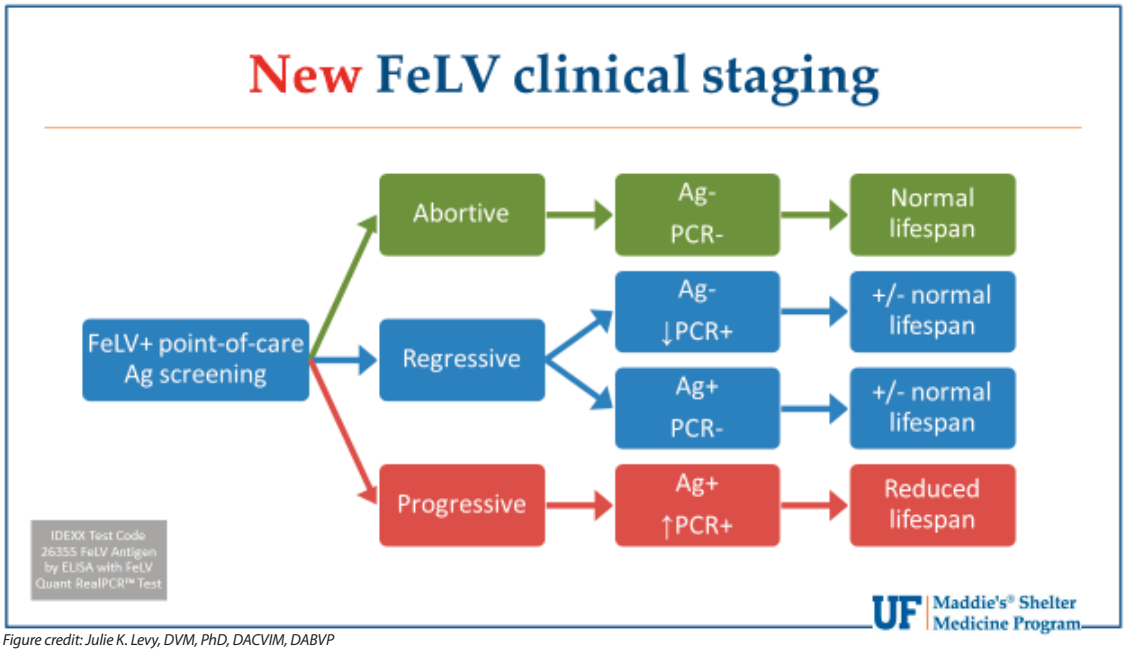

Figure credit: Julie K. Levy, DVM, PhD, DACVIM, DABVP

Abortive Infection

- Characterized by negative test results for culturable virus, antigen, viral RNA and proviral DNA
- Only indication of FeLV infection is the presence of antibodies
- Not common after experimental infection but seems to be more common in the field
- FeLV antibodies in the absence of detectable viral RNA, proviral DNA, or anitgen, and without having received FeLV vaccines

Regressive Infection

- Viral shedding does not occur, but the virus does integrate into the cat's genome
- Can transmit infection if used as blood donors
- Low risk of developing FeLV-associated diseases
- Small risk of reactivation of the virus
- Integration into the DNA can lead to lymphoma or bone marrow suppression

Progressive Infection

- FeLV not contained during the early stage
- Extensive viral replication first in lymphoid tissue, then bone marrow and subsequently in mucosal and glandular epithelial tissues
- Mucosal and glandular infection associated with excretion of infectious virus, mainly in saliva, but also other secretions
- Insufficient FeLV-specific immunity, neutralizing antibodies are not typically detectable
- Shorter survival time and succumb to FeLV-associated diseases within several years

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Outcomes of Infection continued

FIV

FIV Disease Pathogenesis

- Acute phase following exposure: often goes unnoticed
- Immune response: suppression of circulating virus
- Asymptomatic phase: slow, progressive dysfunction of the immune system
- FIV-related disease phase: patient developed FIV related clinical symptoms and disease

FIV Acute Phase

- Transient fever, lymphadenopathy, and lymphopenia
- Signs can be subtle and transient: +/-fever, +/- general malaise, +/- lymphadenopathy
- Often goes unnoticed
- Virus detectable in high concentrations in the blood by culture and PCR
- CD4+ and CD8+ T cell numbers decline

FIV Immune Response

- FIV antibodies produced by 60+ days post infection
- Circulating virus suppressed
- CD8+ T cells increase above pre-infection levels
- Inversion of CD4:CD8 ratio
- Over time both CD4 and CD8 lymphocytes gradually decrease in numbers

FIV Asymptomatic Phase

- Can last for many years
- Increased risk of chronic and recurrent infections
- Neoplasia is 5x more likely
- Cell-mediated immunity more affected than humoral immunity
- Hyperglobulinemia may occur
- Survival time similar to that of non-FIV infected cats

FIV Clinical Phase

- May never develop FIV-related clinical signs in their lives
- Clinical signs are related to immunodeficiency and/or immunostimulation
- Related conditions include chronic gingivostomatitis, chronic rhinitis, lymphadenopathy, immune-mediated glomerulonephritis, and weight loss
- Neoplasia may occur including (but not limited to): B cell lymphosarcomas, myeloproliferative disease, and squamous cell carcinoma
- Concurrent infections: viral, bacterial, fungal, protozoal, parasitic *(e.g. Demodex)*