

Serum Amyloid A (SAA) in Cats: Helping Veterinarians Read Their Feline Patients

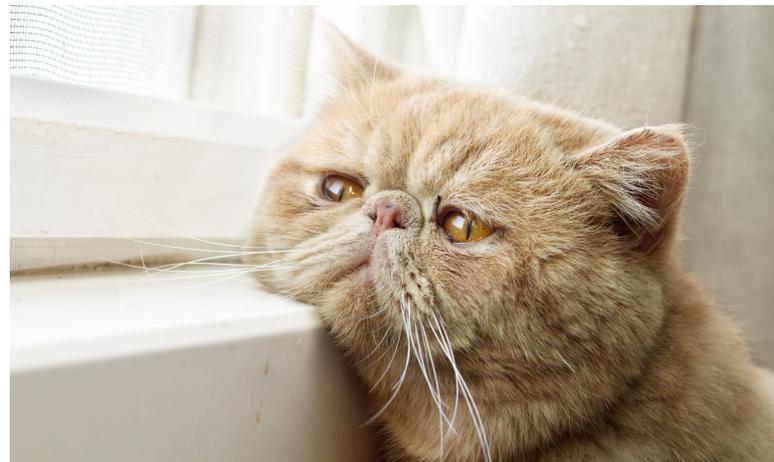
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Cats are notoriously stoic and hide illness well, often to their own detriment. This presents challenges for veterinarians when trying to diagnose and manage disease, as clinical signs are often subtle until the situation is critical.

SAA is a biomarker to help diagnose infection in multiple species

In recent years, serum amyloid A (SAA) has been extensively utilized by equine veterinarians with great success for the identification and monitoring of infection, showing greater sensitivity than fever for detecting subclinical infection.¹ SAA is the most sensitive acute phase protein in cats² as well as horses, therefore applicability of this valuable tool for feline medicine is quite similar.



Measuring SAA facilitates early and effective detection of many infections, since it strongly mirrors clinical condition. SAA increases more predictably than WBC count^{3,4} and may increase even in the absence of fever¹. It is also unaffected by NSAID or corticosteroid administration. SAA is normally almost zero², but increases rapidly and dramatically with acute, systemic inflammation.³ As inflammation begins to resolve, it quickly returns to baseline level. Tracking SAA allows objective monitoring of treatment efficacy and can detect re-emergence of disease or complications before they become clinically evident.

SAA increases with acute inflammation caused by bacterial or viral infection

As an acute phase protein, SAA increases with bacterial or viral infections that cause acute, systemic inflammation. It is less affected by chronic or highly localized disease. A recent study at a primary care facility examined clinical use of SAA in cats for a variety of diseases², with results relevant for small animal practitioners.

Feline SAA was most consistently and significantly elevated with upper respiratory infections, pneumonia, pyometra, feline infectious peritonitis, and traumatic disease. Other diseases in which SAA was more variable but still showed notable elevations included pancreatitis, hepatitis/cholangitis, ketoacidosis, and potentially gingivostomatitis. Patients with gastroenteritis, round cell tumors, lower urinary tract diseases, and hyperthyroidism occasionally had mild to moderate SAA elevation, but most were normal, as were the majority of patients with chronic kidney disease, solid tumors, cardiomyopathy, and diabetes mellitus (without ketoacidosis).²

Monitoring clinical condition with SAA is particularly valuable

A published case report demonstrating the clinical value of monitoring SAA tracked a cat with pancreatitis for over 2 years.⁴ Upon initial presentation with acute pancreatitis, the cat had a 2-day history of anorexia and vomiting and was febrile with elevated SAA and normal WBC count. He improved markedly after 5 days of treatment and SAA returned to normal. In the ensuing follow-up, the cat experienced several acute exacerbations of chronic pancreatitis and other complications. In each instance SAA was again elevated, with variable (often normal) WBC results. SAA consistently returned to normal as clinical signs resolved.⁴

Rapid, in-clinic SAA testing enhances patient management

Coupled with other routine tests, measuring feline SAA in-clinic gives veterinarians an invaluable aid for differential diagnosis, early detection of infection, evaluating prognosis⁵, and monitoring clinical condition. Tests can never replace a good physical exam or clinical expertise, but timely, objective results can make a difference for managing our reticent feline patients.

REFERENCES

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