Total Body Function Profile (TBFP) For Cats

NOW INCLUDES SAA

A Total Body Function Profile (TBFP) is the profile of choice if there is any suspicion of abnormality in organ function – either in the clinical history, or at physical examination. Because an animal may be seriously ill, requests for urgent TBFPs will be prioritised.

Total Body Function

Biochemistry		
Albumin	Cholesterol	Phosphate
ALP	Chloride	Potassium
ALT	Creatinine	Protein - Total
Anion Gap	CK	Sodium
AST	GGT	Urea
Bicarbonate	Globulins	T4 Total
Bilirubin - Total	Glucose	USG
Calcium	Magnesium	Serum Amyloid A (SAA)

Haematology
Full Blood Examination

Interpretation
Pathologist Interpretation

To order this test please send your patient blood sample (including EDTA tube, plain or gel serum tube, fluoride oxalate tube and blood smear) along with your submission form (available to download at gribblesvets.com.au/veterinarians/ordering-a-test)

Clinical examples

Minky, an 8 yo Burmese cat, presented with azotaemia and clinical signs of vomiting including hairballs intermittently for two months. She was admitted for fluids and management of suspected chronic kidney disease, but despite rehydration, failed to eat well and developed a large mass of unknown origin in the abdomen. She responded partially to steroids, but thendeteriorated and was euthanased two days after an SAA measurement of >100 (RI <1mg/L), consistent with severe inflammatory disease.

Simba, a 6 yo British Shorthair cat, presented with back pain. He had normal haematology and biochemistry, excepting a slightly increased creatinine of 165 umol/L (range 67-150 umol/L). The only other abnormality was SAA of 63 mg/L (RI <1mg/L), consistent with a significant inflammatory process. He responded to antibiotics and nonsteroidal pain relief, and the back pain resolved.

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Serum Amyloid A (SAA) in Cats

SAA has high sensitivity for acute inflammation, but may remain within normal limits in certain chronic or local inflammatory conditions such as gastrointestinal disease, some neoplastic diseases, and even some cases of severe chronic inflammation such as Feline Infectious Peritonitis.

SAA is more sensitive than other markers of inflammation including neutrophilia, left shift or toxic change. SAA is particularly useful in conditions such as pancreatitis that are hard to identify in cats, and to identify whether inflammation is a underlying vague presentation of ill health.

SAA has been reported to increase in cats in conditions such as chronic renal failure, polycystic kidney disease and hyperthyroidism; whether this relates to inflammation secondary to these conditions is as yet unknown (studies were limited to clinical examination and full exclusion of inflammatory disease was not possible; Tamamoto et al, 2008). SAA measurement in feline patients with these conditions is still worthwhile, as increased SAA can indicate persistent inflammation. Persistently high SAA protein is a potential cause of secondary (reactive) amyloidosis and monitoring in renal disease may help identify a predisposition to possible amyloidosis.

Neoplastic diseases cause a variable acute phase response. Inflammation often accompanies neoplasia due to necrosis, ulceration, invasion and related damage, and SAA has also been thought to either affect or reflect likelihood of metastasis. In humans and animals, monitoring of the acute phase protein response has been used to prognosticate, and to monitor success of treatment or recurrence of neoplasia following induction of remission. (Tecles et al, 2009; Cray et al. 2009)

References:

Christensen et al. Vet J. 2012; 194: 332-337. Evaluation of an automated assay based on monoclonal anti-human serum amyloid A (SAA) antibodies for measurement of canine, feline and equine SAA.

Cray et al. Comp Med. 2009; 59(6): 517-526. Acute phase response in animals: a review.

Tamamoto et al. J Vet Med Sci. 2008; 70(11): 1247-1252. Verification of measurement of the feline serum amyloid A concentration by human SAA turbidimetric immunoassay and its clinical application.

Tecles et al. J Vet Diagn Invest. 2009; 21: 214-219. Serum acute phase protein concentrations in female dogs with mammary tumours.

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