



PROTOCOL – BILE ACID STIMULATION TEST

The bile acid stimulation test has, for some time now, replaced the assay of serum (fasting) ammonia and the ammonia tolerance test in assessing hepatic function. In the event there is impaired hepatic function, portosystemic shunt, or disorders of cholestasis, the removal of bile acids from the plasma is impaired, leading to elevated fasting levels.

Bile acid levels are not normally increased in hepatopathies associated with hyperadrenocorticism, corticosteroid therapy, or anticonvulsant therapy.

In the event of jaundice, resulting from a post- or inter-hepatic process, bile acid measurement may be helpful in differentiating pre-hepatic jaundice (e.g. that due to haemolysis) and jaundice of hepatic or post-hepatic origin. Consequently, in this assay, there is concurrent assay of bilirubin.

The dynamic bile acid test is the most sensitive index of liver function, particularly when run in conjunction with other tests of liver function, particularly hepatic enzyme assays.

METHOD:

1. Withhold food for a period of at least 12-hours. Collect a pre-stimulation sample into a clot activator tube labeled with the animal's name and 'pre.'
2. Feed a meal high in fat. (Note: there is not normally the need to add oil to this meal).
3. 2 hours later collect a post-prandial sample into a clot activator tube, again labeled with the animal's name and 'post'.
4. Alternatively, or in addition, label the tubes with the time of collection.

Note also that this test can be run in conjunction with the ACTH Stimulation Test: (see separate protocol for ACTH Stimulation test without BA Stimulation)

1. At stage 3 above collect an additional baseline sample into a clot activator tube and label with the animal's name and 'pre-ACTH.'
2. Inject 0.25mg (250µg) Synacthen I.V. For patients weighing less than 5kg use half the dose of Synacthen, i.e. 0.125mg (125 µg).
3. One hour later collect a post-ACTH Stimulation Sample, again into a clot activator tube. Label with the animal's name and 'Post-ACTH.'
4. Alternatively, or in addition, label the tubes with the time of collection.

Cortisol is the analyte measured in this assay. As many steroids used in practice cross-react in the cortisol assay, administration of steroids prior to, or during, the ACTH stimulation test may result in erroneous values.

As dexamethasone is not known to cross-react in this assay, that drug can be used in the event there is a need for urgent glucocorticoid replacement therapy whilst the ACTH Stimulation Test is underway.