

TAG LFT AUDIT STANDARDS

4/02/2010

1. The tests that make up a standard liver function test should be agreed with the local clinicians or Gastroenterologists. The minimum should be Total bilirubin, Alkaline Phosphatase, ALT and albumin (+/- Total Protein and a calculated globulin).
2. γ GT, AST and conjugated bilirubin should be available on request.
3. Laboratories should have a comment on the report indicating that an isolated rise in total bilirubin is suggestive of Gilbert's syndrome provided intra-vascular haemolysis is excluded.
4. Laboratories should have a protocol agreed with A&E for LFT monitoring in paracetamol poisoning:
 - a. Patients with staggered overdose should be treated with NAC and can be discharged after the NAC treatment or 24 hours after the last paracetamol dose provided they are asymptomatic and INR, plasma creatinine and ALT are normal
 - b. When NAC is started within 8 hours of the overdose the INR, plasma creatinine and ALT must be checked for normality one hour before the end of the NAC infusion.
 - c. Patients who present between 8 and 15 hours post ingestion need a baseline INR, plasma creatinine and ALT. Plasma creatinine and ALT must be checked for normality at the end of the NAC infusion.
 - d. Patients who present 15 hour or longer after ingestion should have baseline INR, bicarbonate, venous blood gas, plasma creatinine and LFT and another test at the end of the infusion.
 - e. Patients who present more than 24 hours post ingestion should have INR, plasma creatinine, ALT, bicarbonate and blood gases measured on admission.
 - f. All patients require an LFT 48-72 hours post ingestion as liver damage occurs late in paracetamol poisoning.
5. The Consultant Microbiologists/ Consultant Virologists should decide what is offered in their local laboratory for a Hepatitis screen.
6. For the diagnosis of Haemochromatosis initially ferritin and transferrin saturation should be done. Patients should be referred to a Consultant Gastroenterologist or haematologist for further investigation and HFE genotyping. HFE genotyping should be available for relatives of confirmed cases.
7. For Wilson's disease it is recommended that Caeruloplasmin is the initial test performed. In a liver presentation an age cut –off can be used and caeruloplasmin is not indicated in patients over 40. Copper should be done on any low caeruloplasmin, if acute phase markers are

elevated or if the patient is on steroids. If there is a high clinical suspicion of Wilson's disease a 24 hour urine copper is recommended.

8. Guidelines should be agreed for the use of alkaline phosphatase isoenzymes in adults. γ GT should be measured to identify patients whose raised alkaline phosphatase is purely of bone origin. They may be useful in patients with raised total alkaline phosphatase and γ GT where an additional bone component is suspected. The alkaline phosphatase should be repeated when fasted. A cut-off of twice the upper limit of normal is reasonable as criteria for isoenzymes.
9. The Royal College of Obstetricians and Gynaecologists recommend the following investigations in obstetric cholestasis:
 - a. Pregnancy associated reference ranges for LFTs should be used
 - b. Other causes of itching and liver dysfunction should be excluded
 - c. The measurement of total serum bile acids in potential cases of obstetric cholestasis
 - d. Once diagnosed LFTs should be monitored weekly.
 - e. LFTs should be checked at least 10 days postnatally.
10. PIII NP should be offered as a marker of fibrosis for patients on Methotrexate.
11. LFTs should be monitored before starting and during treatment with the certain drugs. The table below contains a small number of the most common drugs that can potentially cause abnormal LFTs:

DRUG	DRUG
Valproate	Methotrexate
Ketoconazole	Dantrolene
Amiodarone	Thiazolidinediones
Azathioprine	Synthetic retinoids
Anti-TB drugs	Chemotherapy drugs
Statins	

12. Appropriate autoimmune liver disease tests tests to offer should include anti-nuclear antibodies, anti-smooth muscle antibodies, anti-mitochondrial antibodies and -anti liver kidney microsomal antibodies.
13. AAT and Caeruloplasmin are acute phase reactants so it is best to avoid testing during acute illness if possible.
14. All laboratories should participate in a relevant EQA scheme for all analytes they measure.