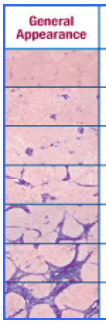
Liver Disease - Assessment of Severity - Full Clinical Guideline

Reference no.: CG-T/2013/191

The assessment of patients with abnormal LFTs is aimed at identifying the aetiology of their liver disease and the severity of underlying liver damage. Injury to hepatocytes leads to activation of immune cells and an inflammatory response. Inflammatory mediators stimulate hepatic stellate cell activation (may then be self-perpetuating) which leads to fibrogenesis. It is fibrosis progression which may ultimately lead to cirrhosis. The assessment of severity of liver disease can be based on clinical, laboratory, imaging and histological findings.

Clinical: The presence of stigmata of chronic liver disease (spider naevi, palmar erythema, leuconychia and gynaecomastia) in a patient presenting with liver disease often indicates cirrhosis in the absence of an alternative cause.
Laboratory: thrombocytopenia in a patient with abnormal LFTs should always alert the clinican to the possibility of cirrhosis (low platelets largely secondary to hypersplenism resulting from cirrhosis and portal hypertension). An AST:ALT ratio > 1 in patients with HCV may indicate cirrhosis.
Imaging: A shrunken liver with an irregular surface may be seen on USS or CT in patients with advanced liver disease, but the liver can often appear normal on imaging in the presence of cirrhosis.
Tissue elastography: See guideline on tissue elastography
Histology: There are various scoring systems for the severity of liver fibrosis on biopsy. The Ishak modified HAI score was developed for the assessment of fibrosis in viral hepatitis and is frequently referred to in pathology reports and clinic letters in Derby. NAFLD is reported using Kleiner score – see NAFLD guideline.

Ishak fibrosis score

General Appearance	Categorical Description	Categorical Assignment
	No fibrosis (normal)	0
	Fibrous expansion of some portal areas (+/-) short fibrous septa	1
	Fibrous expansion of most portal areas (+/-) short fibrous septa	2
	Fibrous expansion of most portal areas with occasional portal to portal (P-P) bridging	3
	Fibrous expansion of portal areas with marked bridging (P-P) as well as portal to central (P-C)	4
	Marked bridging (P-P and/or P-C), with occasional nodules (incomplete cirrhosis)	5
	Cirrhosis, probable or definite	6

Assessment of severity of liver failure in patients with cirrhosis:
Scoring systems for the severity of liver failure in patients with cirrhosis help determine prognosis and are used to aid decisions on treatment (e.g Interferon therapy in HCV) and surveillance intervals for oesophageal varices. They are also used in decisions regarding the need for liver transplantation.

Child-Pugh score

Parameter	Points assigned		
	1	2	3
Ascites	Absent	Slight	Moderate
Hepatic encephalopathy	None	Grade 1-2	Grade 3-4
Bilirubin micromol/L (mg/dL)	<34.2 (<2)	34.2-51.3 (2-3)	>51.3 (>3)
Albumin g/L (g/dL)	>35 (>3.5)	28-35 (2.8-3.5)	<28 (<2.8)
Prothrombin time Seconds over control INR	 <4 <1.7	 4-6 1.7-2.3	 >6 >2.3
CPT classification: Child A: score 5-6 (well compensated); Child B: score 7-9 (significant functional compromise); Child C: score 10-15 (decompensated)			

Model of End-Stage Liver Disease (MELD score) - electronically calculated from the serum bilirubin, creatinine, and clotting (INR and prothrombin time). If using MD-Calc ensure click SI units. It is used for the allocation of livers for transplantation in the US. A similar scoring system which also incorporates the serum sodium is used bv the UK transplantation services (UKELD).

1. Documentation Controls

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