

Evaluation of a LFT pattern not typical of liver disease

(Elevated LD, AST >> ALT)

Possible causes

Further investigations

Muscle disorders

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Myocardial infarction

CK, Troponin-T

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Myositis

CK

Infections (especially viral)

Autoimmune (Poly-, Dermato-) add ANA, ESR

Drugs (e.g. statins, proton pump inhibitors)

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Metabolic conditions

CK, ELFTs (if not done)

Hypokalaemia

Hypothyroidism

add TSH

Hypophosphataemia

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Rhabdomyolysis

CK

Crush injury, Strenuous exercise

Hyperthermia, Seizures, Alcohol

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Sarcoidosis

CK, ACE

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Inherited diseases of muscle

CK, DNA tests if available

(e.g. muscular dystrophies)

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General investigations

CK ± Troponin-T

(muscle)

Haematological disorders

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Red cell disorders (haemolysis) May see elevated bilirubin (unconjugated) in addition to elevated LD and AST >> ALT

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Collection artefact

(e.g. difficult venepuncture)

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Acquired conditions

Autoimmune RBC destruction

Blood film, Direct Coombs

Infections (e.g. EBV)

Autoimmune diseases (e.g. SLE)

Physical red-cell damage

Blood film

(e.g. prosthetic heart valve)

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Inherited conditions

Defects in RBC membrane

Blood film

(e.g. hereditary spherocytosis)

(e.g. paroxysmal nocturnal haemoglobinuria)

Abnormal RBC enzymes

Blood film

(e.g. G6PD def. + oxidative stress)

Haemoglobinopathies

Blood film, Hb electrophoresis

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Other haematological conditions

Leukaemia, myelodysplasia

Blood film, Bone marrow

General investigations (RBC)

FBC and film, Reticulocyte count, Direct Coombs Test, Haptoglobin

Other source

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Chronic liver disease

Clinical features of chronic liver disease, Imaging

(this pattern is seen in some forms of chronic liver disease, particularly alcohol-related)

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Malignancy

Imaging, Tumour markers