**Liver Disease or Hepatitis of Unknown Etiology Testing**

**INDICATIONS FOR TESTING**
Liver disease of unknown etiology (all viral serologies negative, elevated transaminases)

**ORDER**
Autoimmune Liver Disease Evaluation with Reflex to Smooth Muscle Antibody (SMA) IgG, by IFA AND Antinuclear Antibodies (ANA), IgG by ELISA with Reflex to ANA, HEp-2 Substrate, IgG by IFA OR

**Individual tests:**
- F-Actin (Smooth Muscle) Antibody, IgG by ELISA to Smooth Muscle Antibody, IgG Titer
- Antinuclear Antibodies (ANA), IgG by ELISA with Reflex to ANA, HEp-2 Substrate, IgG by IFA
- Liver/Kidney Microsome-1 Antibody, IgG
- Mitochondrial M2 Antibody, IgG (ELISA)

**Negative result(s)**

**Either test positive**
- Anti-Neutrophil Cytoplasmic Antibody, IgG
- Soluble Liver Antigen Antibody, IgG

**ORDER**

**Positive result(s)**

**ANA and/or F-actin/SMA +**

**LKM-1 +**

**AMA + and ANA +/-**

**AIH-1 or PSC**

**Suggests AIH-2**

**Suggests PBC**

**pANCA + with atypical staining pattern**

**Either test positive**

- ANCA - SLA +

- pANCA + with atypical staining pattern, SLA -

**Suggests AIH-1**

**Suggests PSC**

**Perform cholangiography**

**Suggests AIH or UC**

**Negative**

**CCH AIC**

**Test key**
- **AMA** Mitochondrial M2 antibody
- **ANA** Antinuclear antibody
- **LKM-1** Liver-kidney microsome 1 (cytochrome P450 2D6)
- **pANCA** Perinuclear antineutrophil cytoplasmic antibody
- **SLA** Soluble liver antigen
- **SMA** Smooth muscle antibody

**Disease key**
- **AIC** Autoimmune cholangitis
- **AIH** Autoimmune hepatitis
- **PBC** Primary biliary cholangitis
- **PSC** Primary sclerosing cholangitis
- **UC** Ulcerative colitis

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