Viral hepatitis

- Phase 1 - Viral replication
  - Patients are asymptomatic during this phase.
  - Laboratory studies demonstrate serologic and enzyme markers of hepatitis.
- Phase 2 - Prodromal phase
  - Patients experience anorexia, nausea, vomiting, alterations in taste, arthralgias, malaise, fatigue, urticaria, and pruritus. Some even develop an aversion to cigarette smoke.
  - When seen by a health care provider during this phase, patients are often diagnosed as having gastroenteritis or a viral syndrome.
- Phase 3 - Icteric phase
  - Patients may note darkening of the urine, followed by pale-colored stools.
  - In addition to the predominant gastrointestinal symptoms and malaise, patients become icteric and may develop right upper quadrant pain with hepatomegaly.
- Phase 4 - Convalescent phase
  - Symptoms and icterus resolve.
  - Liver enzymes return to normal

Transplant

Acute Rejection

- occurs in 20-70% of cases, most often at 7-14 days post transplant
- represented clinically as jaundice with laboratory evidence of abnormal liver function tests.
  - Bilirubin and alkaline phosphatase levels rise initially
  - followed by elevations ALT and AST
  - Other symptoms may include fever, liver tenderness, and eosinophilia
- high-dose steroids
  - prednisolone 200 mg or methylprednisolone 1 g for 3 d
- Or high-dose steroid bolus followed by a rapid taper over 5-7 days
- These treatment regimens are effective in 65-80% of transplant recipients

Chronic Rejection

- gradual obliteration of small bile ducts and microvascular changes
- occurs in about 5% of patients
- Diagnosis is made by liver biopsy
- major cause of late graft failure
- The primary finding
  - persistently elevated alkaline phosphatase and bilirubin levels
  - manifest as jaundice and/or pruritus
  - Loss of liver synthetic function may not be evident until very late in the course

Infection

- (<1 mo)
  - most commonly bacterial, although the risk of fungal infection is high

- During months 1 through 6, the most common infections are due to viruses or opportunistic organisms
- After the first 6 months, risk of infection is similar to the general population
- most common causes of infection in the outpatient setting are the typical community-acquired pathogens
- **Cytomegalovirus (CMV) is the most common viral infection**
- Liver transplant recipients may present to the ED for any complaint must have high clinical suspicion
- Symptoms of mild rejection are nonspecific
  - low-grade fever, fatigue, malaise, generalized weakness, and/or jaundice. Right upper quadrant pain also may be present
- Adrenal insufficiency must be considered
  - due to chronic steroid use
  - stress-dose steroids such as hydrocortisone may be needed

Occupational Exposure

- **Hepatitis B Virus (HBV)**
  - if received hepatitis B vaccine and have developed immunity = no risk
  - Unvaccinated risk from a single needlestick or a cut exposure to known HBV-infected blood ranges from 6%–30%
    - if source pt both (HBsAg) and HBeAg positive more virus and are more likely to transmit HBV.
- **Hepatitis C Virus (HCV)**
  - estimated risk for infection from HCV-infected blood is approximately 1.8%.
  - The risk following a blood splash is unknown but is believed to be very small but reported
- **Human Immunodeficiency Virus (HIV)**
  - risk for HIV infection after a needlestick or cut exposure to HlV-infected blood is 0.3%
  - after exposure of the eye, nose, or mouth to HIV-infected blood is 0.1%
  - Exposure of intact skin = no risk

Cirrhosis

- Classic
  - Jaundice, spider angiomata, palmar erythema, gynecomastia, muscle wasting, Dupuytren's, ascites, pedal edema

Esophageal Varices

- NG Tube is a must
  - Lit review no evidence of increased risk
- Recommendations:
  - **If still bleeding after lavage or hemodynamically unstable Emergent Endoscopy**
- Octreotide/somatostatin
  - Relaxation of vascular smooth muscle reducing portal venous pressure
  - 50 mcg bolus then 25-50 mcg/hr