Chronic Hepatic Disease

10th Leading Cause of Death

Liver Functions

- Energy Metabolism
- Protein Synthesis
- Solubilization, Transport, and Storage
- Protects and Clears drugs, damaged cells

Causes of Liver Disease

- Fulminant Hepatic Failure: Infections, Trauma
- Chronic Hepatitis - esp. Hepatitis C - a "stealth" virus... IV use, transfusions in the 90's, cocaine use
- Cirrhosis: Laennec's, Postnecrotic, Biliary, Cardiac, Idiopathic
- Transplant rejection
- Malignancy
- Obesity, diabetes, Cholesterolemia = Chief cause
Cirrhosis-Irreversible

- Liver cell death-jaundice, edema, metabolic problems
- Collapse of the reticulin network
- Distortion of the vascular bed- blood clotting disorders
- Leads to cancer of the liver in time.
- Nodular regeneration of remaining tissue

Tests

- Liver biopsy
- CT-Abdominal assessment for liver size, cysts, calcification, ascites
- Upper endoscopy
- Labs:
  - Total Bilirubin
  - Alkaline phosphatase
  - INR
  - Albumin
  - Creatinine
  - Urine

Symptoms of Late-Stage Disease

- Respiratory – hypoxia from fluid in lungs and weak chest expansion
- CNS effects-lethargy, asterixis, peripheral nerve damage
- Hematologic-nosebleeds, easy bruising, anemia
- Skin-itching, dryness, poor tissue turgor
- Hepatic-jaundice, enlarged liver, ascites, edema
- Renal-insufficiency
- Hepatorenal syndrome-50-70% mortality
- Fever
- Bleeding from esophageal varices
  - Propranolol 20 mg BID (Ave. dose 120 mg/day)
  - Madolol 80 mg daily
Complications and Treatments:
Assess Goals of Care for Patient/Family

- Portal hypertension-prevent bleeding
  - Beta blocker
  - Banding or Blakemore tube
  - Portacaval shunt
- Ascites
  - Use of furosemide AND spironolactone
  - Paracentesis with albumin replacement
  - Salt restriction
- Encephalopathy
  - Latest research shows poor correlation between ammonia-encephalopathy
  - Antibiotics to reduce intestinal bacteria
    - Neomycin and Vancomycin
    - Rifaximin
    - Fast Fact #188 (EPERC)
  - Lactulose to reduce ammonia in colon
  - HPNA (2005)

Additional Problems…

- Malnutrition
  - Give high protein diet instead of low protein which has been the norm
- Depression
  - Is it a reactive depression or clinical?
    - Interferon has a depressant effect after transplant

Drug Therapy – Limited Options

- Vitamins and nutritional supplements
- Antacids
- Potassium-sparing diuretics
- Vasopressin for the varices
- Only intermittent analgesia if absolutely needed
- End of life dyspnea-use nebulized fentanyl
- Dexamethasone 2 mg daily po – helps appetite and pain. (Oncologists are using this.)
- Avoid NSAIDS
- Acetaminophen OK…up to 3 GMS/day
- For agitation – oxazepam (Serax)10-30 mg. po daily.
- Opioids??
  - Fentanyl
Psychosocial Issues

- Poor quality of life with this disease
- Strained relationships with family
- Caregivers have high anxiety
- Emotional and financial burdens
- Long lists for transplant
- Emotional, psychological and spiritual burdens
- Alcoholism is chief culprit for the disease-complicating issues of grief and loss
- Palliative care is challenging due to hope for transplant

Prognostication-6 months
Referral to Hospice

- Prothrombin time >5 seconds over control or
  - INR>1.5
- Serum albumin <2.5 gm/dl
- Ascites (refractory)
- Bacterial peritonitis
- Hepatorenal syndrome
  - Elevated creatinine and BUN with oliguria <400 ml/day and urine sodium concentration <10mEq/l
- Hepatic encephalopathy
- Recurrent variceal bleed
- Hepatocellular carcinoma
- Muscle wasting, continued alcoholism, Hepatitis B, Hepatitis C, refractory to interferon treatment
- Patients awaiting liver transplant who fit criteria may be on Medicare Hospice Benefit. If organ is procured, patient is discharged.

NEW: Mayo End Stage Liver Disease (MELD scoring)

- Use of the MELD scoring system since 2002 to determine place on transplant list
  - Measures bilirubin, INR, creatinine
  - Enter scores into UNOS MELD Calculator
- Also being use for hospice referral
  - Mean hospice MELD 19.2 to 23
  - Blending hospice care while waiting for transplant; these two situations are NOT mutually exclusive
Ethical Issues

- $60-100 billion/year health care costs
- Social security pays another $20-40 billion annually to patients with liver disease
- Transplant costs $303,000 + yearly immunosuppressant drug costs
  - 5,000 organs/yr., 20,000 waiting
- Minorities have a worse outcome after transplant due to poor compliance afterwards.
- Disparity based on race—often not put on transplant lists.
- Research pertaining to non-physical aspects is sorely needed.