

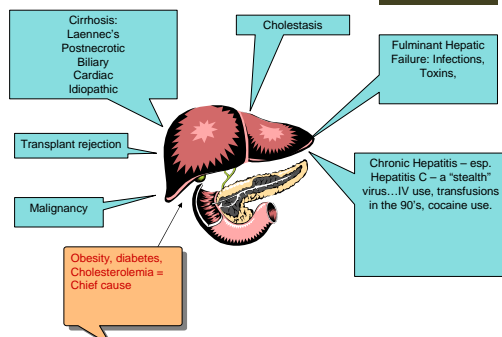
Chronic Hepatic Disease

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



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)
 - Nadolol 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.

HPNA. (2005). *Compendium of treatment of end stage non-cancer diagnoses: Hepatic.*
