

Evaluation and Prognosis of Patients with Cirrhosis



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Disclosure Information



Dr Peters has reported the following financial relationships with commercial firms:

- Consultant: Merck & Co, Inc, Theravance, and Roche
- Data safety monitoring board: Biotron
- Scientific advisor: Clinical Care Options
- Her spouse is employed by Genentech (Roche)

Outline

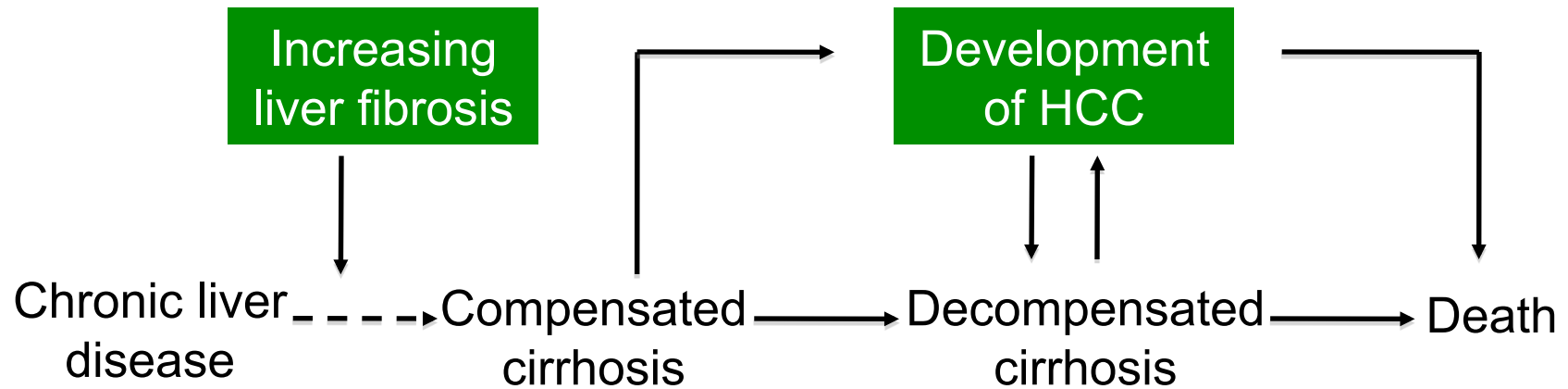


- Cirrhosis staging
- Clinical evidence of portal hypertension
 - Low platelets
 - Low white cell count
 - Splenomegaly
 - Spider nevi
- Management of cirrhosis
- How to recognize decompensated liver disease
- Management of decompensated liver disease

Distinguishing Compensated and Decompensated Cirrhosis



Natural History of End-Stage Liver Disease (ESLD)



- Alcohol
- Hepatitis C or B virus
- NASH
- Cholestatic
- Autoimmune

- Variceal hemorrhage
- Ascites
- Encephalopathy
- Jaundice

Decompensation

- Ascites (HRS, SBP)
- Encephalopathy
- Bleeding varices
- Coagulopathy

Natural History of ESLD



- Transition to decompensated cirrhosis: 5% to 7% of patients per year
- Best predictor of decompensation: hepatic venous pressure gradient (HVPG) > 10 mmHg
- HCC
 - can trigger decompensation
 - predictor of death in decompensated cirrhosis
- Tools for predicting disease severity and death in decompensated cirrhosis
 - Child-Turcotte-Pugh (CTP) score
 - Model for End-Stage Liver Disease (MELD) score

Child-Pugh-Turcotte Score

Points	1 (normal)	2	3
Hepatic encephalopathy	None	1-2	3-4
Ascites	None	slight	mod
Bilirubin (mg/dL)	<2	2-3	>3
Albumin (g/dL)	>3.5	2.8-3.5	<2.8
Prothrombin time	<4 secs ↑	4-6 secs	>6 secs
or International Normalized Ratio	<1.7	1.7-2.3	>2.3

A: 5-6

B: 7-9

C: > 9

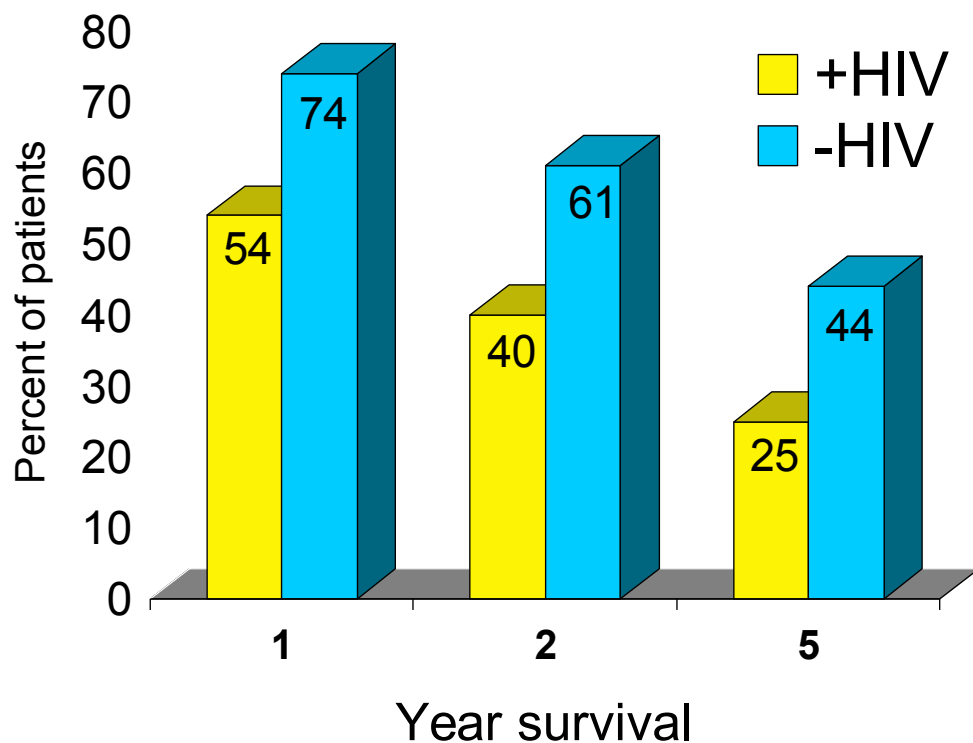
Classification and Prognostic Systems for Patients with Cirrhosis



MELD: Model for ESLD

- | | | | | |
|----------------------|-----------|-----------|-----------|-----------|
| • Bilirubin (mg/dL) | 2 | 5 | 5 | 5 |
| • INR | 1.1 | 2.0 | 2.0 | 3.0 |
| • Creatinine (mg/dL) | 1.0 | 1.0 | 2.0 | 2.0 |
| • MELD | 10 | 20 | 27 | 31 |
- **Predicts 3-month mortality post TIPS/surgery**
 - **Used for allocation of liver donors**

Survival Time From First Liver Decompensation to Death in HCV



- Death during study
 - 366/1037 HCV
 - 100/180 HIV/HCV
- Risk factors for death:
 - HIV
 - Baseline CTP
 - MELD >13
 - Age

Ascites



- Diuretic-responsive ascites
 - Sodium restriction
 - Spironolactone (75 mg-100 mg) and furosemide (20 mg-40 mg)
- Refractory ascites
 - Large volume paracentesis with 25% albumin (50 cc/L)
 - TIPS: higher orthotopic liver transplantation (OLT)-free survival, higher portosystemic encephalopathy (PSE)
- Hyponatremia
 - Fluid restriction, vasopressin 2 R antagonists
- Spontaneous bacterial peritonitis complication

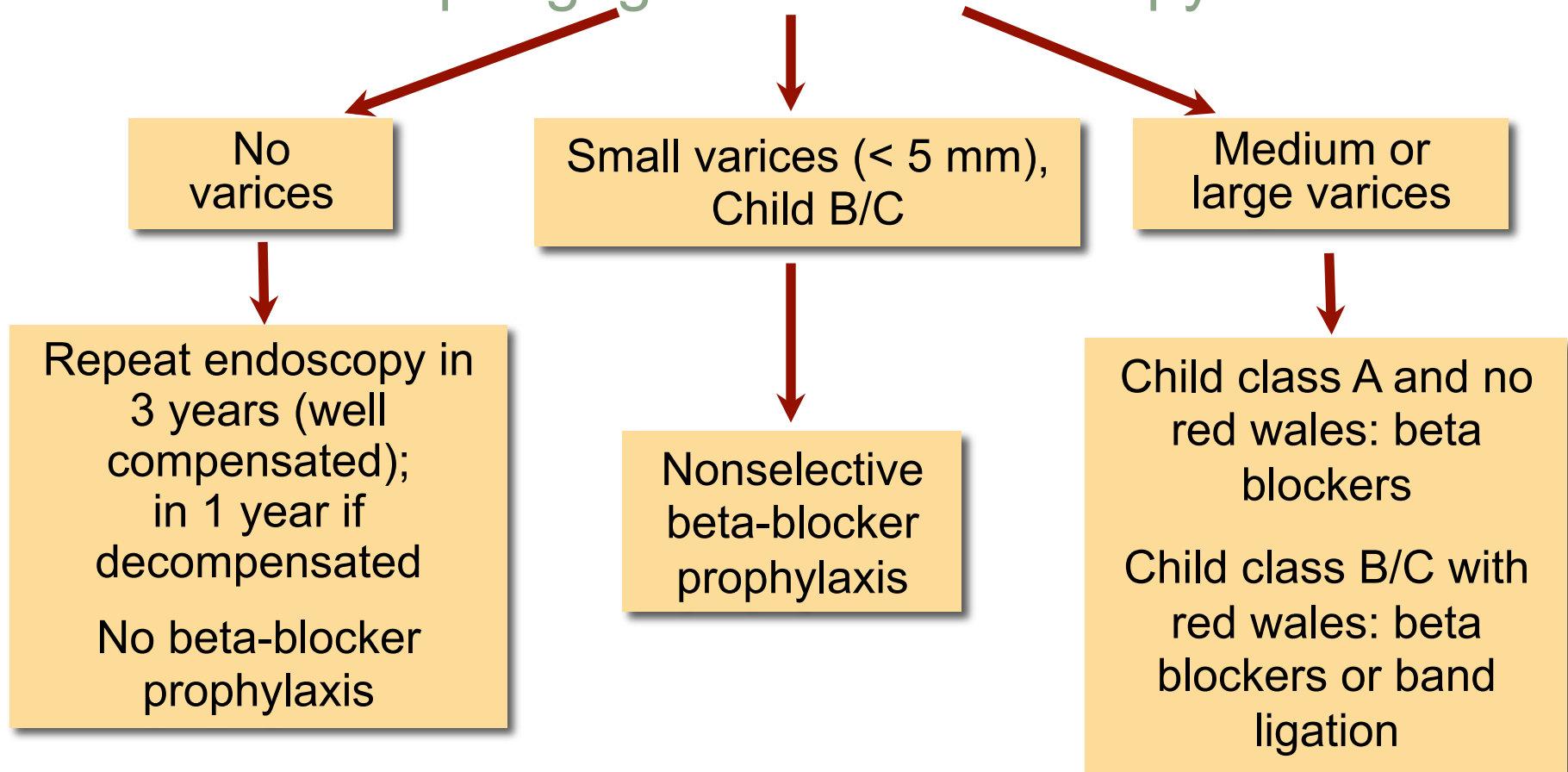
Spontaneous Bacterial Peritonitis



- Most common type of bacterial infection in hospitalized patients with cirrhosis
- Clinical suspicion:
 - < 50%: fever, abdominal pain or tenderness, and leukocytosis
 - unexplained encephalopathy, jaundice
 - worsening renal failure
- Diagnose: tap ascites: WCC > 500, PMN > 250 cells/ μ L
 - Place ascites in blood culture bottles
- Start treatment immediately before culture results

Variceal Surveillance

All patients with cirrhosis require esophagogastroduodenoscopy



Hepatorenal Syndrome



- Results from vasodilatation and marked reduction in effective arterial blood volume leading to renal vasoconstriction
- Occurs in patients with refractory ascites and/or hyponatremia
- **Type 1 HRS**: rapidly progressive renal failure in 2 weeks
- **Type 2 HRS**: slowly progressive - median survival: ~ 6 months
 - Albumin, midodrine, and octreotide-induced vasoconstriction
 - OLT

Hepatic Encephalopathy



- Treatment aims to reduce production of ammonia from the colon through
 - nonabsorbable disaccharides
 - ✦ lactulose, lactitol, and lactose
 - nonabsorbable antibiotics
 - ✦ neomycin, rifaximin
- Protein restriction promotes protein degradation and, if maintained for long periods, worsens nutritional status and decreases muscle mass
 - No longer recommended

Summary: ESLD and HCV



- All HCV patients should be assessed for fibrosis stage prior to starting therapy
- Progression to decompensated cirrhosis can occur with interferon alfa–based therapies
- All patients with cirrhosis require monitoring for
 - Varices with EGD
 - HCC with imaging positive and negative alpha-fetoprotein
 - Ascites and infection (SBP prophylaxis)
- Consider OLT when first decompensation occurs

End



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