

Natural History of Hepatitis C Infection



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Outline



- Spontaneous clearance versus chronic infection
- Variable outcomes of chronic infection
- Predictors related to rate of progression of fibrosis

Spontaneous Clearance Versus Chronic Infection

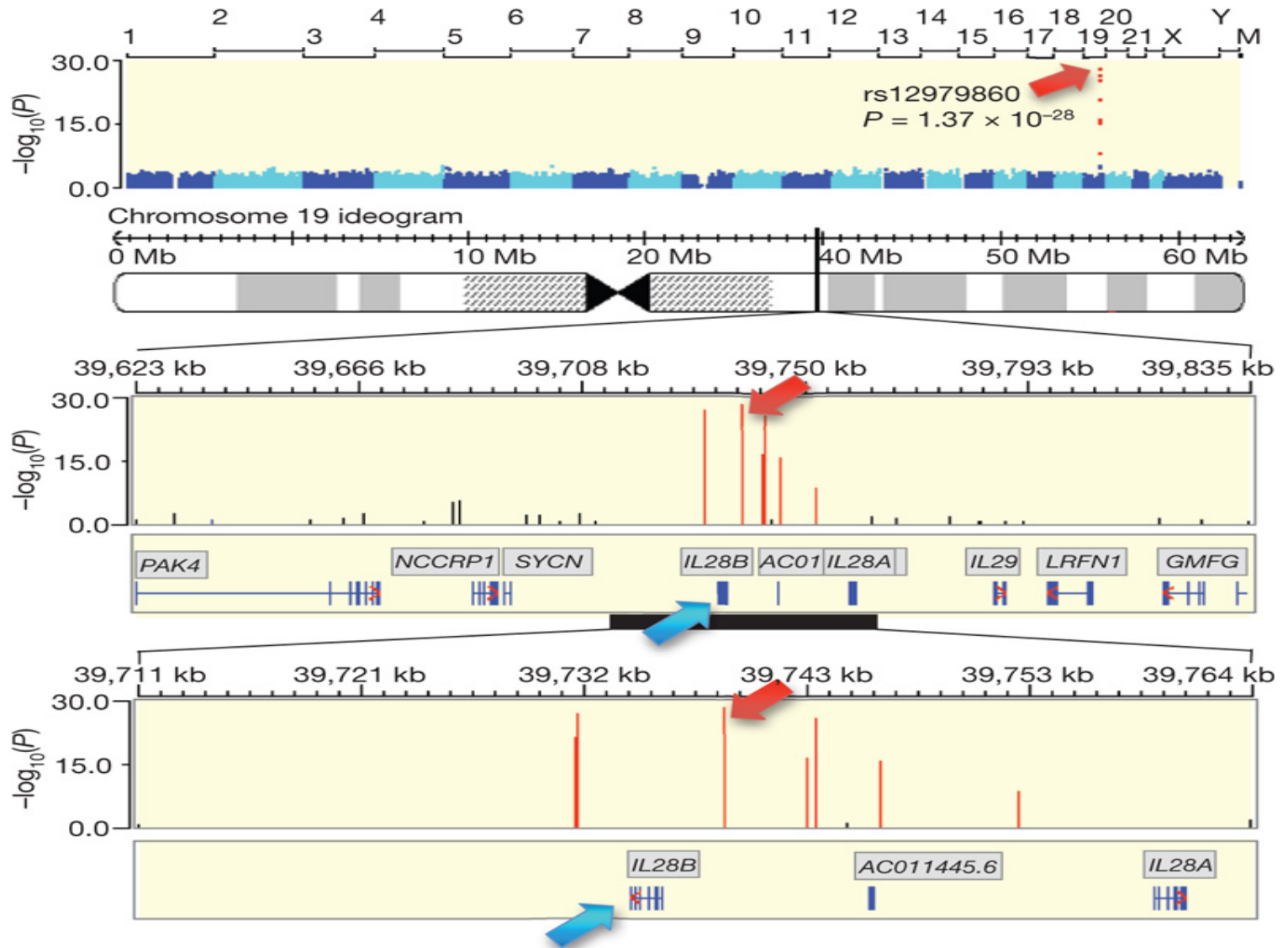


Spontaneous Clearance Versus Chronic Infection

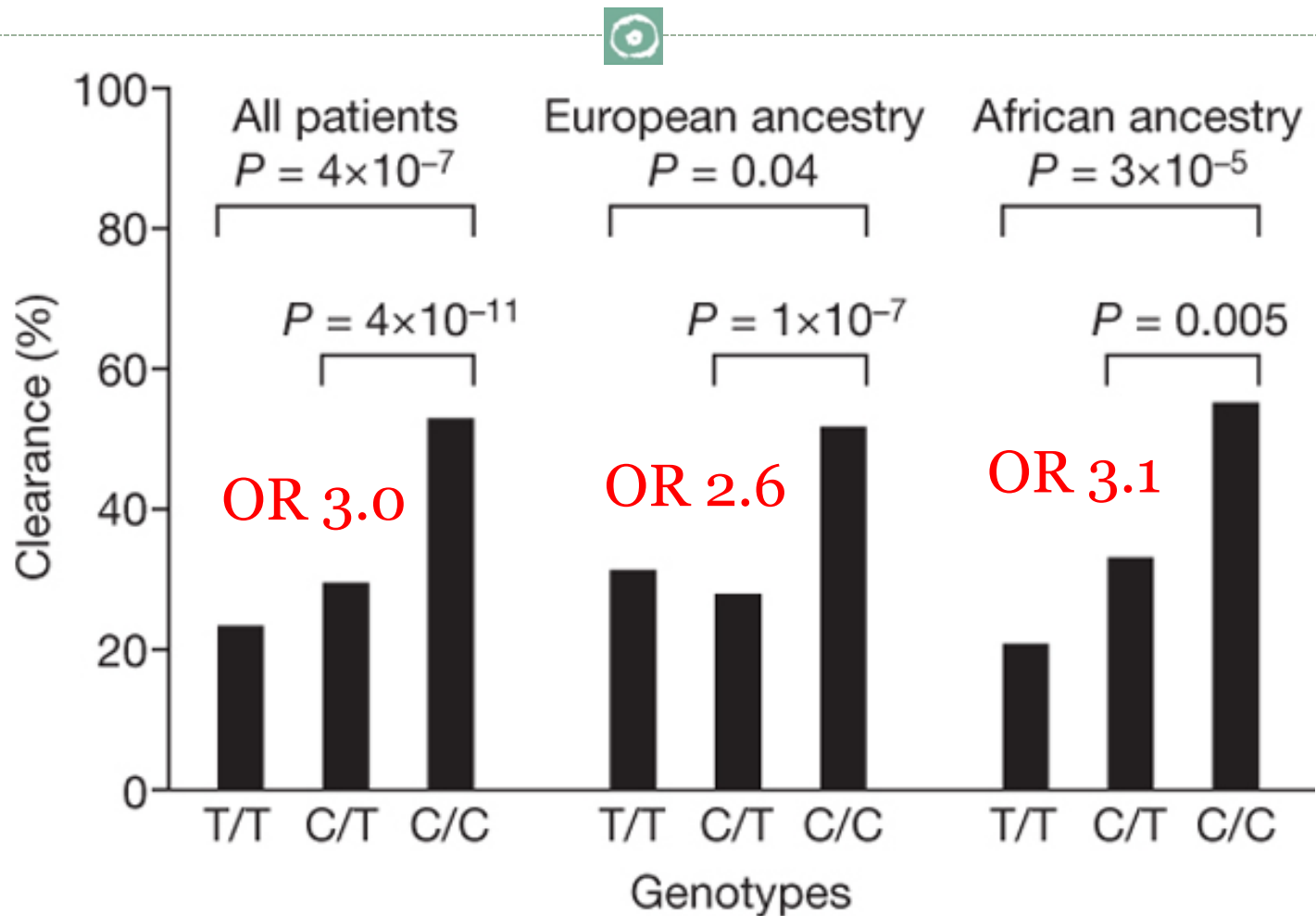


- Outcome of acute infection
 - Clearance of hepatitis C virus (HCV): 10%-35%
 - Development of chronic HCV infection: 65%-90%
- Predictors affecting outcome of acute infection
 - IL28B genotype
 - Quasispecies diversification
 - Size and source of inoculum
 - Immune status
 - Clinical features
 - ✦ Development of jaundice

IL28B



IL28B: Percentage of HCV Clearance by rs12979860 Genotype



Genetic Variation in IL28B Explains Differences in HCV Recovery Rates in Diverse Ethnicities



Different frequencies in IL28B variants explain ethnic differences in HCV recovery rates

Natural History



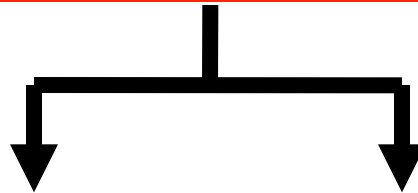
Acute Hepatitis C



Chronic Hepatitis
75%-85 %



Cirrhosis 20 %



Decompensated 20%

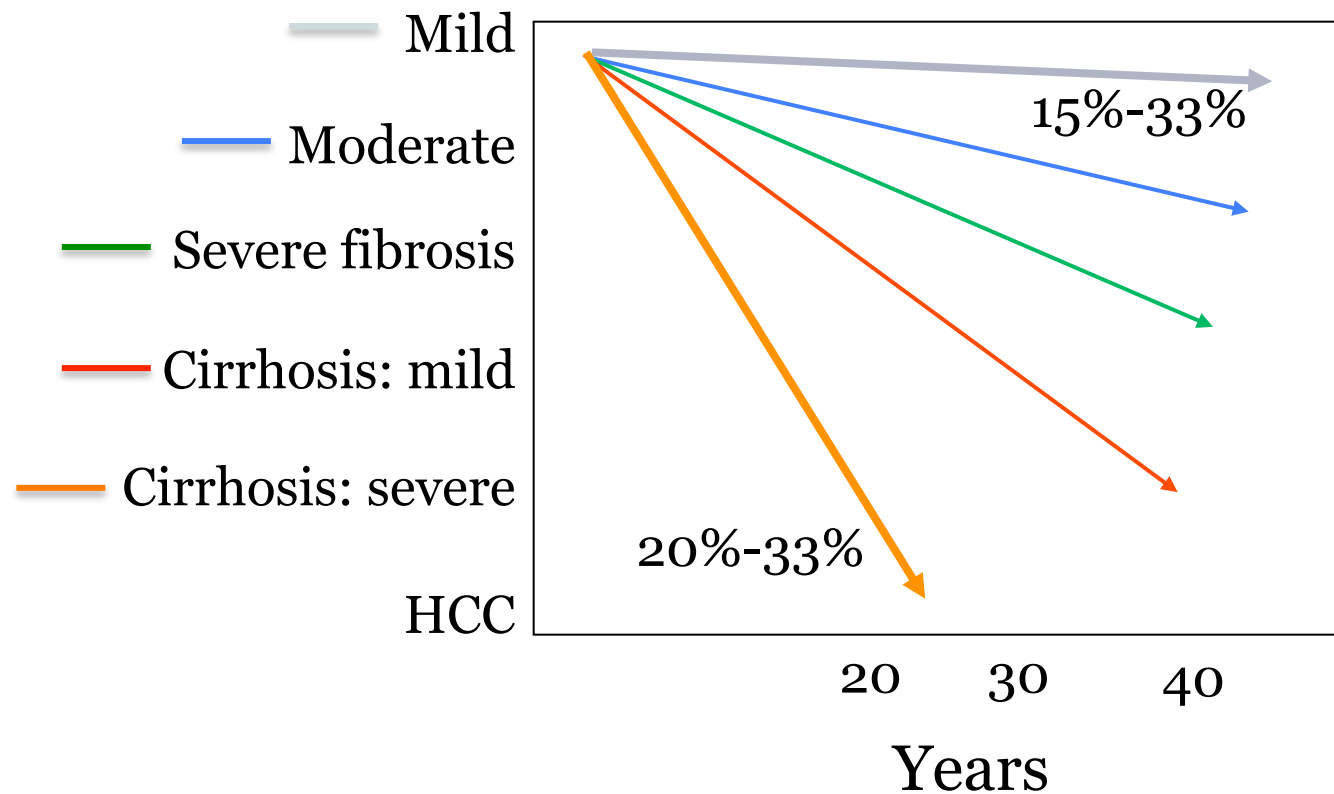
HCC 1%-4% per year

20 years

Variable Outcomes of Chronic Infection



Variable Outcomes of Chronic Infection



Factors Impacting Rate of Progression of Fibrosis



Predictors Related to Rate of Progression of Fibrosis



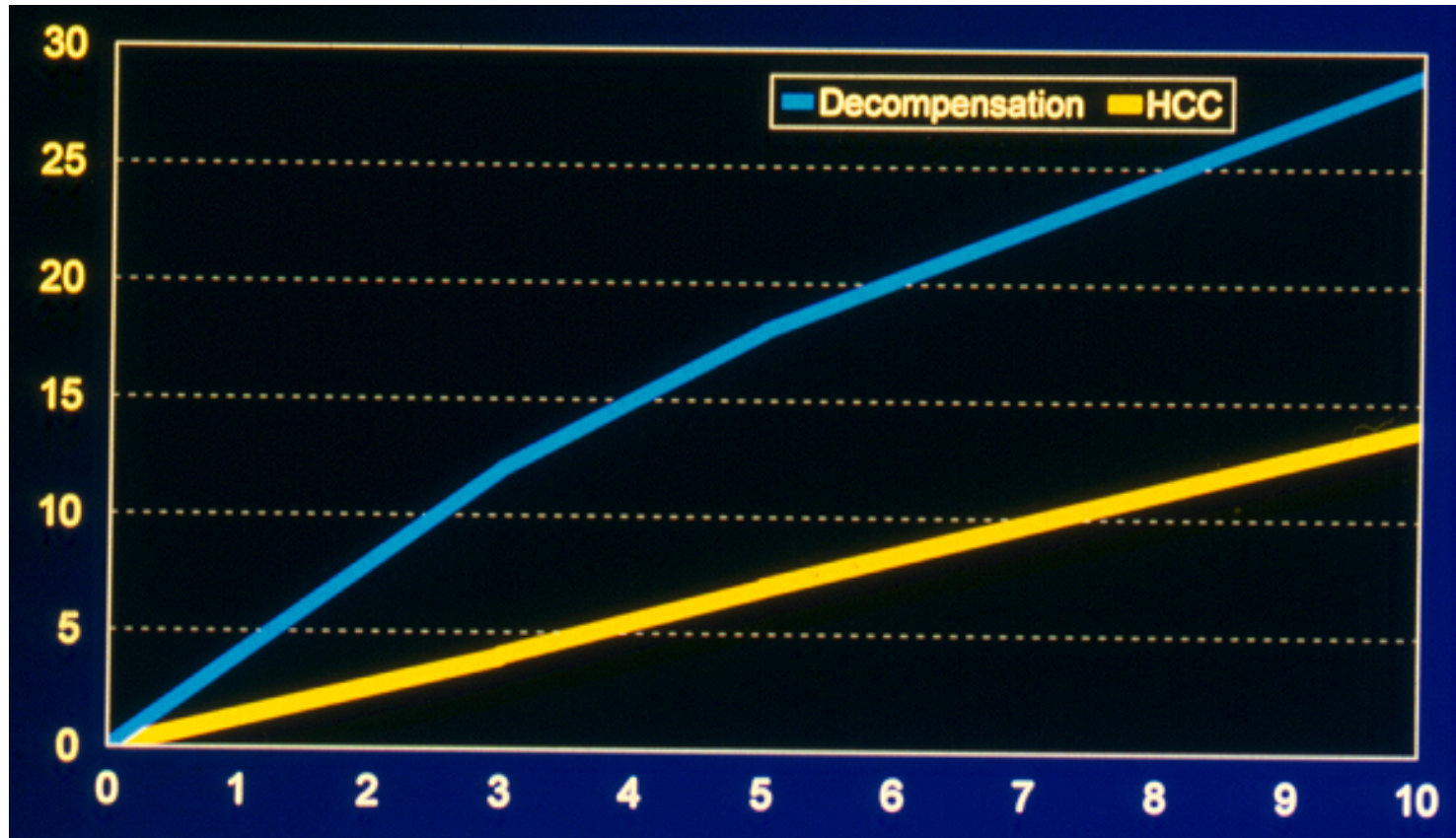
- Older age at infection
- Male sex
- Alcohol
- HIV infection
- Post-transplant
- Quasispecies complexity
- Presence of comorbid liver diseases

Clinical Outcomes of Cirrhosis



- Portal hypertension
 - Varices
 - Ascites
 - Hepatic encephalopathy
 - Splenomegaly
 - Thrombocytopenia
- HCC

HCV in Patients With Cirrhosis, Risk of Decompensation and HCC



Summary



- Most people who are infected with HCV progress to a chronic disease state
- A variety of factors determines individual risk of clearance vs chronicity
- Chronicity leads to variable rates of fibrotic progression
- Cirrhosis leads to
 - End-Stage Liver Disease
 - HCC

End



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