Primary Biliary Cholangitis (PBC)

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1.What is PBC?

Primary biliary cholangitis (PBC), previously known as primary biliary cirrhosis, is a chronic, autoimmune disease which affects the bile ducts in the liver, leading to damage and, in some individuals, irreversible scarring of the liver.

The most common early symptoms are fatigue and itching of the skin. Later symptoms include yellowing of the eyes and/or skin, abdominal pain, fluid build-up in the abdomen, swelling in the feet or ankles, and diarrhea. However, the clinical course is highly variable.

2. Epidemiology

The estimated global prevalence of PBC is <5 per 10,000, but appears to be increasing. PBC accounts for ~0.6-2.0% of deaths from cirrhosis worldwide and affects individuals of all ethnic origin.

Women are more affected than men, 8:1, and predominantly in their 5th to 7th decades of life

3. Risk Factors & Prevention

Risk Factors	Prognostic Factors
• Personal or family history of autoimmune disease • Active or passive smoking	• HLA DRB*0801 • Anti-gp210 positivity • Anti-centromere antibodies

- Unfortunately there is no known prevention for PBC

4. Diagnosis & Screening

Diagnostic Criteria (at least 2 needed):

1. Persistent (>6 months) elevation of serum alkaline phosphatase (ALP) in patients with normal ultrasound of biliary tree;
2. Positive anti-mitochondrial antibody (AMA, at titer >1:40) or anti-Sp100 and anti-gp210 subtypes of anti-nuclear antibodies (ANA);
3. Biopsy showing histologic evidence of nonsuppurative obstructive cholangitis involving interlobular bile ducts

Assessment of liver stiffness should be performed at diagnosis.

5. Treatment

Primarily symptom management from cholestasis and chronic liver disease. When initiated early in the disease course, individuals can have similar survival as the general population.

Ursodeoxycholic acid (UDCA) is the recommended 1st line treatment. Unfortunately, approximately 30-40% of patients do not respond completely to this treatment, and may continue to have progression of their disease. Obeticholic acid is the newest FDA-approved medication for PBC and should be considered in patients who are non-responsive to or intolerant of UDCA.

In end-stage disease, liver transplantation is the only option, though it may not be curative. Recurrence occurs in 17-53% of patients.

Management

Staging and Risk Assessment
- Abdominal ultrasound
- Transient elastrography (Fibroscan)
- Anti-gp210, anti-centromere
- Age

UDCA Response Assessment
- UK-PBC score
- Globe score

Monitoring
- Yearly liver chemistries in early stages
- In more advanced stages, every 3-6 months
- Consider 2nd line therapies

6. Advances in the Field

Therapeutic Class	Mechanism	Study Results
Glucocorticoids (Budesonide)	Anti-inflammatory	Improves liver biochemistries Possibly improves liver histology, but with significant side effects (osteoporosis)
Fibrates (Bezafibrate)	PPAR agonist	Improves liver biochemistries, most pronounced in early disease So far no survival benefit found
Bile Acid Depletion	FGF19 ASBT	Trial ongoing Improvement in liver biochemistries, but no significant decrease in pruritus
T Cell Inhibition (Abatacept)	CTLA4	Trial ongoing