Nearly 1 in 10 With Primary Biliary Cholangitis Have CKD

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Primary biliary cholangitis (PBC) is a chronic autoimmune liver disease, often associated with extrahepatic manifestations that complicate patient management. While clinicians have long recognized a link between PBC and various systemic conditions, the precise burden of chronic kidney disease (CKD) in this population has remained poorly defined. New data clarify the prevalence and incidence of CKD among PBC patients, identifying key risk factors.1

KEY TAKEAWAYS

- The Pivot: Nearly one in ten patients with primary biliary cholangitis also have chronic kidney disease, a higher prevalence than previously quantified.
- The Data: The incidence rate of CKD in PBC patients was 1.4 cases per 100 patient-years (95% CI, 1.1-1.7).
- The Action: Clinicians managing PBC patients should routinely screen for and monitor renal function, particularly in older patients and those with hypertension.

Primary biliary cholangitis (PBC) is an autoimmune disease targeting the small bile ducts of the liver, leading to cholestasis and progressive liver damage. While its primary impact is hepatic, PBC frequently presents with extrahepatic manifestations, including sicca syndrome, thyroid disease, and arthralgias. The relationship between PBC and kidney dysfunction has been reported in isolated cases and small series, but comprehensive data on the prevalence and incidence of chronic kidney disease (CKD) in this specific patient population were limited. This gap left clinicians without clear guidance on the true burden of renal complications in their PBC patients.1

A recent study sought to quantify this relationship, assessing the prevalence and incidence of CKD and identifying associated risk factors in patients with PBC. The investigators conducted a retrospective cohort study, analyzing data from a large patient registry. They included adult patients with a confirmed diagnosis of PBC, defined by standard diagnostic criteria including elevated alkaline phosphatase, positive anti-mitochondrial antibodies, and/or characteristic liver histology. Patients with pre-existing CKD stage 5 or those on dialysis at baseline were excluded to focus on incident CKD.1

What the numbers showed

The study, published in J Gastroenterol, found that the prevalence of CKD in patients with PBC was 9.5% (95% CI, 8.2-10.9) at baseline. This figure represents a substantial proportion of the PBC population, indicating that renal impairment is a common comorbidity. The incidence rate of CKD was 1.4 cases per 100 patient-years (95% CI, 1.1-1.7),

suggesting a continuous risk of developing kidney dysfunction over time in these patients. The median follow-up period for the cohort was 7.8 years, providing a robust observation window for incident cases.1

Investigators identified several independent risk factors for the development of CKD in PBC patients. Older age was a significant predictor, with each additional year increasing the risk of CKD (HR 1.04; 95% CI, 1.02-1.06; P=.001). Hypertension also emerged as a strong independent risk factor (HR 2.15; 95% CI, 1.68-2.75; P2.1

The study did not find a significant association between the severity of PBC (e.g., bilirubin levels, liver stiffness) and the risk of developing CKD, suggesting that renal dysfunction may be an independent extrahepatic manifestation rather than a direct consequence of advanced liver disease. This is an important distinction, as it implies that managing PBC alone may not mitigate the risk of CKD, necessitating separate renal monitoring and intervention strategies. The open-label, retrospective design is the obvious caveat here; prospective studies are needed to confirm these associations and explore potential causal pathways.1

But the findings from this large cohort provide a clearer picture of the renal burden in PBC. The prevalence of nearly 1 in 10 patients having CKD at baseline, coupled with a steady incidence rate, underscores the need for proactive screening. The identification of age and hypertension as key risk factors aligns with general population data for CKD, but their specific impact in the context of PBC warrants increased clinical attention. Clinicians should consider these factors when assessing their PBC patients for renal risk, potentially integrating routine GFR and albuminuria assessments into their standard care protocols.1

The ELDICS Study, while focused on early versus late dialysis in cirrhosis patients with septic shock, reinforces the broader understanding of kidney dysfunction in liver disease. Although not directly assessing PBC, it highlights the critical interplay between hepatic and renal systems, particularly in acute settings. The study demonstrated that early initiation of dialysis did not improve 90-day mortality in this critically ill population (HR 0.92; 95% CI, 0.75-1.13; P=.43), suggesting that the timing of renal replacement therapy in complex liver disease patients requires careful consideration. This underscores the complexity of managing renal complications in patients with underlying liver pathology, whether acute or chronic.2

The data from the PBC-specific study did not explore the impact of specific PBC treatments, such as ursodeoxycholic acid (UDCA) or obeticholic acid, on CKD incidence or progression. This remains an unanswered question. Future research should investigate whether optimal management of PBC itself can influence renal outcomes, or if specific renoprotective strategies are needed independently. The trial was not powered to detect differences in specific CKD stages or the impact of different etiologies of CKD, and that gap matters for tailoring interventions.1

CLINICAL IMPLICATIONS

The prevalence of chronic kidney disease in nearly 10% of patients with primary biliary cholangitis is not a statistic to ignore. Clinicians managing PBC patients must integrate renal function assessment into their routine practice, moving beyond a sole focus on liver parameters. This means regular GFR calculations and albuminuria checks, especially for older patients and those with a history of hypertension.

The identification of age and hypertension as primary risk factors for CKD in PBC patients offers clear targets for intervention. Aggressive management of blood pressure in this population, adhering to established guidelines, could potentially mitigate the risk of developing or worsening kidney disease. This is not a novel

concept, but its specific emphasis within the PBC cohort provides a renewed imperative.
What remains unclear is whether optimizing PBC treatment itself can influence renal outcomes. The study did not address this, leaving an important question for future research. Until then, the onus is on the clinician to manage both the liver and the kidneys as distinct, yet interconnected, entities. Ignoring one for the other is no longer an option.

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