

Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: <https://reachmd.com/programs/Audioabstracts/blood-test-identify-kidney-fibrosis-igan/84875/>

ReachMD

www.reachmd.com
info@reachmd.com
(866) 423-7849

Could a Simple Blood Test Help Identify Kidney Fibrosis in IgAN?

Ryan Quigley:

What if two lab values you already order could tell you something about scarring you'd otherwise need a biopsy to see?

You're listening to *AudioAbstracts* on ReachMD. I'm Ryan Quigley, and today, I'll be talking about a retrospective study published in *Frontiers in Nephrology* that suggests the lactate dehydrogenase-to-albumin ratio, also called LAR, may offer a simple, noninvasive way to identify patients with moderate-to-severe tubulointerstitial fibrosis, a key pathological feature associated with disease progression in patients with immunoglobulin A nephropathy, or IgAN.

An estimated 25 to 50 percent of patients with IgAN reach end-stage renal disease within 20 to 30 years of diagnosis, but tubular atrophy and interstitial fibrosis are consistently the strongest pathological predictors of poor renal outcomes according to the Oxford classification of IgAN. The catch is – grading it requires a biopsy, which is not only invasive, but also prone to sampling error and impractical to repeat for monitoring.

LDH is the glycolytic enzyme that converts pyruvate to lactate, and its expression rises in renal proximal tubular epithelial cells when they're stressed by hypoxia or injury. Albumin, on the other hand, reflects systemic inflammation and nutritional status, and in IgAN it tends to fall as proteinuria climbs. So the ratio blends a tubular injury signal with an inflammatory-nutritional one. LAR has already shown prognostic value in sepsis, acute kidney injury, stroke, and heart failure, but nobody had looked at whether it tracks with tubulointerstitial fibrosis in IgAN.

Researchers retrospectively analyzed 398 adults with biopsy-confirmed primary IgAN treated at a single hospital in China between 2018 and 2024. Patients were categorized according to their Oxford classification T scores, which reflect the extent of tubular atrophy and interstitial fibrosis. Of these patients, 273 had no or mild fibrosis defined as T0, while 125 had moderate-to-severe fibrosis.

Out of the gate, median LAR was significantly higher in patients with moderate-to-severe fibrosis compared to the no or mild fibrosis group. And this was consistent even after adjusting for age, sex, hypertension, ACEI/ARB use, eGFR, proteinuria, segmental sclerosis, and crescents, LAR held up as independently associated with moderate-to-severe fibrosis. The researchers also identified an LAR threshold of 4.91 which gave a sensitivity of 56.8 percent and specificity of 78 percent. And among patients exceeding the 4.91 threshold, 54.2 percent had moderate-to-severe fibrosis, compared with 20.2 percent of those with lower values.

Although these findings were encouraging, the diagnostic performance of LAR was more modest. On its own, LAR achieved an area under the receiver operating characteristic curve of 0.717, significantly outperforming LDH alone but not albumin.

The findings highlight LAR's potential as an accessible, inexpensive supplementary marker for identifying patients who may warrant closer evaluation.

However, several limitations deserve consideration. The study was retrospective and conducted at a single center, the proposed threshold lacks external validation, and the cross-sectional design cannot establish whether elevated LAR predicts future fibrosis progression or worsening kidney function.

Ultimately, LAR may help complement existing approaches to IgAN risk assessment, particularly when comprehensive evaluation is unavailable. But its moderate diagnostic accuracy means it cannot replace kidney biopsy.

Prospective, multicenter studies will be needed to determine whether LAR can meaningfully improve clinical decision-making or longitudinal disease monitoring.

This has been an *AudioAbstract*, and I'm Ryan Quigley. To access this and other episodes in our series, visit ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!

Reference:

Zheng L, Yang G. The lactate dehydrogenase-to-albumin ratio is independently associated with moderate-to-severe tubulointerstitial fibrosis in patients with IgA nephropathy. *Front Nephrol*. 2026;6:1931478. Published 2026 Sep 21. doi:10.3389/fneph.2026.1931478