Top 10 Takeaways for Clinicians from the KDIGO 2021 Clinical Practice Guideline for Infection-related Glomerulonephritis

1 Bacterial infection–related GN

Bacterial infection–related GN may present after a bacterial infection (post-infectious GN), after a latent period, (often days to several weeks after an infection), or in the presence of an ongoing, acute or chronic bacterial infection (infection-related).

2 Clinical diagnosis

The synthesis of history; physical examination; kidney assessments (UA, ACR, PCR, eGFR); cultures of blood, urine, other suspected fluids and tissues; and serological examinations (C3, C4, cryoglobulin, Factor B, Serum IgA level, ASO, antiDNAse B, anti-hyaluronidase antibodies, ANCA) are often sufficient to support a clinical diagnosis in the setting of bacterial infection.

3 Kidney biopsy

Kidney biopsy may be necessary to confirm a diagnosis and/or to provide prognostic information in patients with bacterial infection in uncertain situations.

4 Treatment for infection-related GN

Treatment for post-infectious GN is supportive care to control edema, proteinuria, and hypertension. Immunosuppression is generally inadvisable. For infection-related GN, additional treatment to eradicate the underlying infection should be added.

5 Hepatitis B

Approximately 250–350 million people (5% of the world's population) are chronically infected with HBV, making it one of the most common human pathogens. About 3%– 5% of patients with chronic HBV infection develop kidney disease as a complication.

6 Treatment of HBV

Adults with chronic HBV infection are at risk for developing kidney failure. Patients with replicative HBV infection (as denoted by HBV DNA levels >2000 IU/ml) and GN should be treated with nucleos(t)ide analogues as recommended for the general population by standard clinical practice guidelines for HBV infection.

7 Avoid immunosuppression for HBV

Chronic untreated HBV infection may flare if immunosuppression is introduced to treat HBV-associated or HBV-independent GN.

8 Prevalence and diagnosis of HIV

Patients with HIV undergoing kidney biopsy show a broad spectrum of kidney pathology, including, in order of prevalence, immune complex GN, diabetic kidney disease, HIV-associated nephropathy (HIVAN), tenofovir toxicity, FSGS, global sclerosis (NOS), acute tubular injury, other tubulointerstitial, glomerular, and vascular diseases. When possible, a kidney biopsy should be performed for accurate diagnosis.

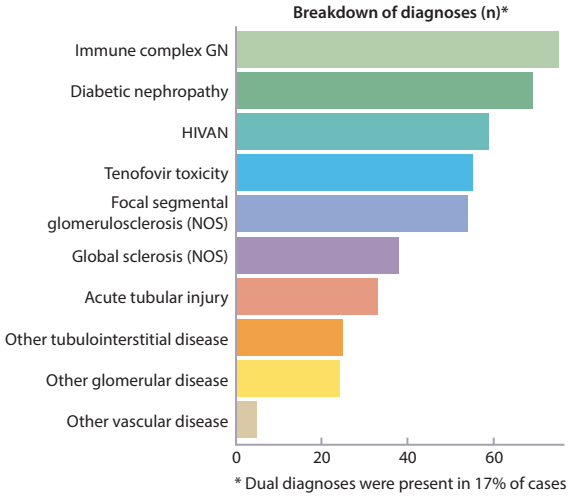
9 Treatment of HIV

It is recommended that all patients with HIV and CKD receive antiretroviral treatment for HIV with dosing adjustments for CKD, independent of the CD4 count. Early implementation of highly active antiretroviral therapy has been associated with a 60% reduction in the incidence of HIVAN. There are no randomized trials to guide treatment for HIV-associated kidney diseases.

10 Parasitic infections

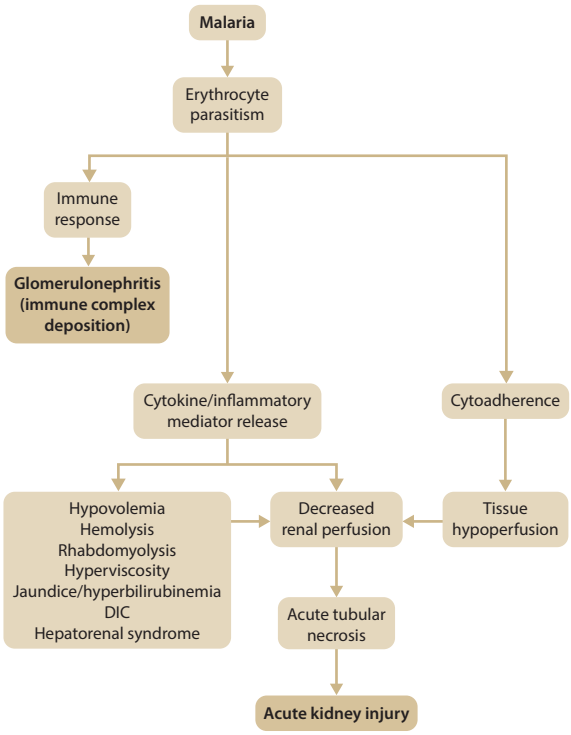
Parasitic infections should be treated to eradicate the underlying infectious organism. Monitor patients with hepatic fibrosis from schistosomiasis for the development of kidney disease, and evaluate patients with a history of schistosomiasis and an elevated serum creatinine and/or hematuria for bladder cancer and/or urinary obstruction. Immunosuppression is not indicated for the treatment of GD complicating parasitic infections.

The spectrum of kidney biopsy findings in patients with HIV in the modern era



* Dual diagnoses were present in 17% of cases

Pathophysiology of kidney involvement in malaria



Abbreviations: ACR, albumin-creatinine ratio; ANCA, antineutrophil cytoplasmic antibody; ASO, antistreptolysin O titer; CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; GD, glomerular disease; GN, glomerulonephritis; HBV, hepatitis B virus; HIV, human immunodeficiency virus; PCR, protein-creatinine ratio; UA, urinalysis