Letter regarding: "A Case of Gross Hematuria and IgA Nephropathy Flare-Up Following SARS-CoV-2 Vaccination"

To the Editor: We have followed with interest reports of female patients (n=4) with indolent IgA nephropathy, evidenced by normal kidney function and microscopic hematuria without proteinuria at baseline, presenting after a second dose of the Pfizer-BioNTech (n=2) or Moderna (n=2) SARS-CoV-2 mRNA vaccine with self-limited gross hematuria.[1–3]

With the hope of spurring continued discussion of best management in patients with more aggressive IgA nephropathy at baseline, we share 4 additional cases of IgA nephropathy and/or IgA vasculitis flairs temporally associated with Moderna SARS-CoV-2 mRNA vaccination (Table 1).

Patients 1 and 2 are both women with normal kidney function who developed gross hematuria and mild proteinuria without rise in serum creatinine within 48 hours of a second vaccine dose. By 1 week and sustained through at least 1-month follow-up, both had complete resolution of hematuria and no additional flairs without intervention.

In contrast, patients 3 and 4 are both men with chronic kidney disease and mild proteinuria at baseline, who developed not only gross hematuria but also significant proteinuria and kidney function decline.

Owing to persistent kidney dysfunction, 3 months after second vaccine dose, patient 3 underwent a kidney biopsy, showing an active and chronic IgA nephropathy with 13% active crescents. As his kidney function and proteinuria showed improvement, patient 3 declined immunosuppressive therapy and was treated with angiotensin-converting enzyme inhibition and close follow-up.

Patient 4 developed gross hematuria followed by lower extremity rash 1 month after his first vaccine dose (5 days before second dose); skin biopsy showed IgA vasculitis. Cutaneous but not renal symptoms of IgA vasculitis worsened though 10 days after second vaccine dose, and he received a 1-week course of prednisone 40 mg daily, with resolution of rash and improved renal function.

These cases highlight that in the absence of intervention, COVID-19 vaccine–associated IgA nephropathy and IgA vasculitis flairs may improve

Table 1. Patient clinical characteristics

Patient	Age, yr	Sex	MH	Medications	Evidence of systemic IgA vasculitis before vaccination	Temporal relation of gross hematuria to Moderna SARS-CoV-2 mRNA vaccination	Baseline (hematuria / uPCR / SCr)	Presentation (hematuria / uPCR / SCr)	Evidence of systemic IgA vasculitis after vaccination	Biopsy	Treatment	Follow-up 1 mo post second dose (hematuria / uPCR / SCr)
1	22	F	None	None since episodic steroids for IgA vasculitis at age 10 yr	Yes	48 h after second dose	4–10 / neg / 0.80	>50 / 0.40 / 0.80	No	No	None	0–3 / 0.27 / 0.80 (hematuria returned to baseline)
2	39	F	None	None	No	48 h after second dose	0–3 / neg / no baseline	>50 / 0.90 / 0.80	No	No	None	0 / below detection / 0.80 (hematuria and proteinuria returned to baseline)
3	50	M	HTN	None	No	24 h after second dose	11–25 / 2.40 / 1.17	>50 / 3.56 / 1.54	No	Yes, kidney	RAASi	11–25 / 2.20 / 1.24 (hematuria and proteinuria returned to baseline; SCr improving but above baseline)
4	67	M	HTN	RAASi	No	1 mo after first dose	0–3 / 0.05 / 1.20	>50 / 2.10 / 2.90	Yes, bilateral lower extremity maculopapular rash	Yes, skin	Steroid	0–3 / 0.09 / 1.40 (hematuria and proteinuria returned to baseline; SCr improving but above baseline)

F, female; HTN, hypertension; M, male; neg, negative; MH, medical history; RAASi, renin-angiotensin-aldosterone system inhibition; SCr, serum creatinine (in mg/dL); uPCR, urine protein-to-creatinine ratio.
Hematuria is expressed as number of red blood cells per high-powered field on urinalysis. None of the patients had episodes of gross hematuria before vaccination, and none were known to have been infected with SARS-CoV-2, although serologic testing before vaccination was not performed.

spontaneously; however, important questions remain regarding utility and risks of immunosuppressants or subsequent vaccine doses.

DISCLOSURE

All the authors declared no competing interests.

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Ken Park[1], Scott Miyake[1], Cynthia Tai[1], Mindy Tseng[1], Nicole K. Andeen[2] and Vanderlene L. Kung[2]

[1]Kaiser Permanente, Nephrology, Portland, Oregon, USA and [2]Oregon Health & Science University, Pathology, Portland, Oregon, USA

Correspondence: Vanderlene L. Kung, Department of Pathology, Oregon Health and Science University, 3181 SW Sam Jackson Park Rd, Portland, Oregon 97239, USA. E-mail: kungv@ohsu.edu

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