

Reactivation of Undiagnosed Vasculitis in Vaccinated COVID-19 Patient

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Introduction

- Granulomatosis with Polyangiitis (GPA) is a small vessel form of vasculitis.
- It most commonly affects lungs, kidneys and the oropharynx.
- Other common symptoms include palpable purpura.
- Prevalence is 2.3 to 146 cases per million with an incidence of .4 to 11.9 cases per million [4]
- GPA is most commonly seen in older adults, but can occur at any age [4]

Case Report

- A 35 year-old male who presented to the hospital on 4/2023 for three weeks of fevers, myalgias, arthralgias, dysphonia and hematochezia.
- His symptoms originally began in March 2023 at which time he tested positive for Covid. He tested negative at the beginning of April, but his original symptoms persisted.
- He went to his primary care physician regarding these symptoms as well as a productive cough with clear sputum and hematochezia. His primary care physician sent him to the Emergency Department for evaluation for possible MIS-A vs. vasculitis vs. endocarditis.
- Further history revealed that this was not the first manifestation of these symptoms. During 10/22 he had this same episcleritis. At this time, he saw an ophthalmologist who treated him symptomatically.
- In 1/23 these symptoms re-occurred while he was in India. At that time he was placed on a short course of corticosteroids, with no diagnosis made.
- Patient had been vaccinated three times for COVID-19: on 4/21, 5/21 and 12/21.

Case Report Continued

- Physical exam revealed swollen knuckles, bilateral episcleritis, right vermilion border ulcer, and petechial rash on his extremities.



Figure 2: Oral Ulcer



Figure 3: Palmar Petechiae



Figure 4: Pedal Petechiae

- Labs showed eosinophilia 1.3, HGB 9.5, Na 129, ESR 85, CRP 295.2, ALP 288, GGT 341, procalcitonin 1.14, and D-dimer 7356.
- He was given dexamethasone, azithromycin, vancomycin and cefepime.
- Viral panel, complements and SSA/SSB-Ab were negative.
- He had ANA 1:320, RF 195, c-ANCA 1:360.
- Flexible nasopharyngoscopy showed bilateral vocal cord ulcerations.
- He improved with supportive care and was discharged.
- He re-presented 3 days later for persistent symptoms.
- PR-3 antibody returned at 116.0.
- He underwent renal biopsy confirming ANCA associated crescentic glomerulonephritis.
- He was discharged on glucocorticoids and Rituximab for Granulomatosis with Polyangiitis (GPA).

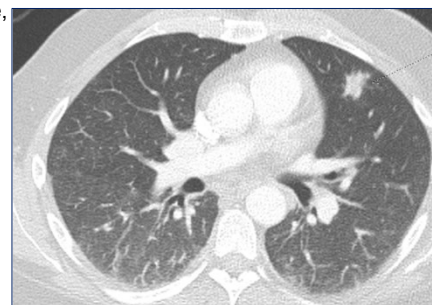


Figure 5: CTA PE - No evidence of pulmonary embolism, however scattered groundglass nodules with consolidative changes noted in the lungs. This is concerning for underlying infectious/inflammatory process.

Unique Aspects

- The physical exam findings were pathognomonic for GPA: palpable purpura, episcleritis, left lung coin lesion and renal involvement.
- The oral ulcers are uncommon; one case review found two cases of oral ulcers in 40 confirmed diagnoses [6].
- The American College of Rheumatology classifies oral ulcers as one of the most specific exam findings for GPA [5].

Literature Review

- The only fit within the timeline is reactivation of previously undiagnosed GPA by viral infection.
 - One study published showed vasculitis flare caused by COVID-19 in two cases [6]. However, it was IgA vasculitis, not GPA.
 - Several studies related to the vaccine and GPA presentation or reactivation [1,2], or to initial presentation of GPA secondary to COVID-19 infection [3] exist but do not fit the timeline.

Recommendations and Conclusions

- Further research regarding reactivation of quiescent vasculitides in response to COVID-19 in vaccinated patients should be explored.
- COVID-19 infection can cause reactivation of vasculitis in vaccinated patients. While most of the previous cases lead to an IgA Vasculitis diagnosis or vaccination as a trigger for GPA rather than infection itself, one can interpolate that GPA can be caused by infection.
- Vaccination against COVID-19 does not seem to be protective in this case. In fact, it could be an insult that triggers autoimmune illness.

Resources

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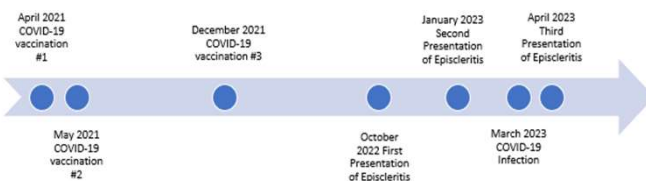


Figure 1: Timeline of vaccinations and COVID-19 infections