COVID-associated non-vasculitic thrombotic retiform purpura of the face and extremities: A case report

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Abstract

SARS-CoV-2 infection can manifest many rashes. However, thrombotic retiform purpura rarely occurs during COVID-19 illness. Aggressive anti-COVID-19 therapy with a high-dose steroid regimen led to rapid recovery. This immuno-thrombotic phenomenon likely represents a poor type 1 interferon response and complement activation on the endothelial surface in response to acute infection.

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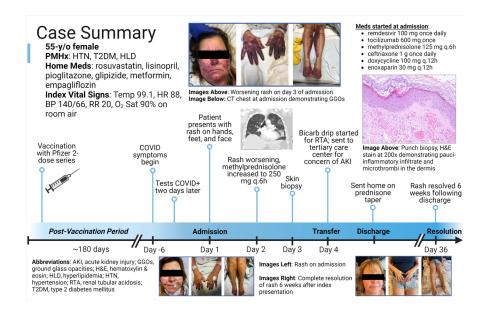
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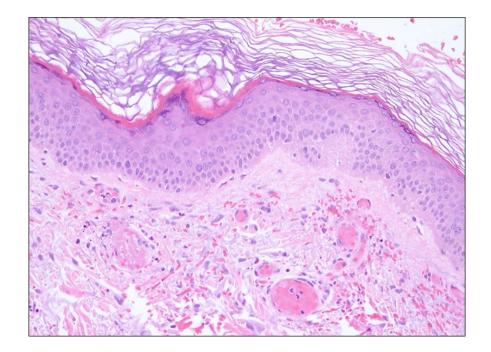
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"COVID Toes" (i.e., COVID Pernio or Chilblain-like lesions)

- Demographic: most commonly healthy adolescents and children with low BMI; rarely a vaccine side effect
 COVID illness: mild or asymptomatic
 Presentation: typically restricted to feet and toes following cold exposure
 Lab findings: often negative COVID PCR and antibody testing

- Perk and antibody testing Pathophysiology: Robust IFN-1 response Histopathology: Perivascular inflammatory infiltrate +/-thrombosis

COVID-associated thrombotic retiform purpura

- Demographic: middle-aged and older adults with comorbidities
 COVID illness: moderate to severe respiratory illness
 Presentation: diffuse violaceous rash that may extend beyond acral distribution
 Lab findings: elevated D-dimer, +/- elevated fibrinogen, CRP, and PT/INR
 Pathophysiology: Poor IFN-1 response
 Histopathology: Pauci-inflammatory infiltrate with microvascular thrombosis, IF+ for complement denosition. IF+ for complement deposition

Endotheliitis