Purpura Fulminans and Invasive *Streptococcus pneumoniae* in Immunocompetent Individual

UPSTATE MEDICAL UNIVERSITY

Talha Perwez MD[1], Junaid Farooq MD[1], FNU Duremala MD[2] , Abrar Khan DO[1], Nabil Zeineddine MD[1]

1- State University of New York (SUNY) Upstate Medical University, Syracuse NY; 2-University of Alabama Birmingham, Montgomery, AL

Email: Perwezt@upstate.edu

Background

- Purpura Fulminans (PF) associated with invasive Streptococcus pneumoniae (ISP) is extremely rare.
- We present a case of PF associated with ISP in an immunocompetent person.

Case

- 45-year-old previously healthy male, presented with fall, and dizziness for 1-day, preceded by bloody bowel movements and abdominal pain.
- On arrival to ED, he had dyspnea, chest tightness and headache. Temperature was 101.7° F, HR 128, RR 37, and SpO2 94% RA. He had coarse breath sounds bilaterally, petechial and purpuric rash on chest, lips, bilateral upper and lower extremities (Fig. 2,3, 4).
- Laboratory findings were significant for WBC 39.3 10*3/uL, Hb 9.3 g/dL, Plt 33 10*3/uL, Cr 2.8 mg/dl, AST 523, ALT 242, T bili 3.2 with direct 1.5. INR was 2.86, PT 28,9, PTT 57.2, D dimer >20, and fibrinogen 175. CK was 16,295, ferritin 5294, and LDH 1749. Blood cultures grew *Streptococcus pneumoniae*.
- HIV, Hepatitis Panels, ANA 1:80 speckled pattern, ANCA/complement levels/immunoglobulin levels were unremarkable.
- CT chest (Fig.1) showed b/l ground glass and airspace opacities and effusions.
- He was started on ceftriaxone 2gm IV Q12. He was given 2 doses of IVIG and 3 days of methylprednisolone 1gm due to initial concerns IgA vasculitis.

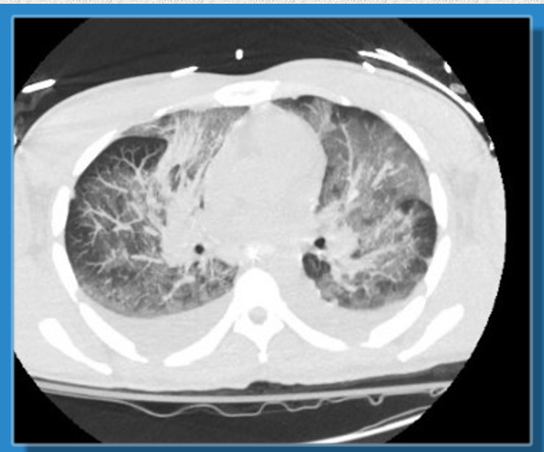

Figure 1 – CT Chest – with contrast

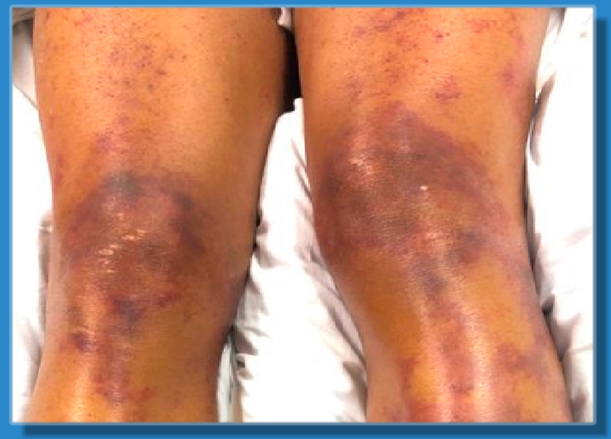

Figure 2 – Purpuric rash

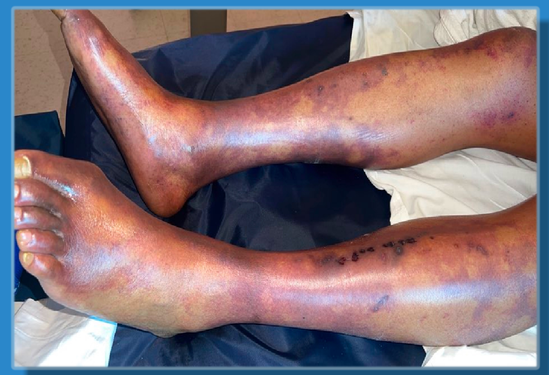

Figure 3 – Purpura and necrosis

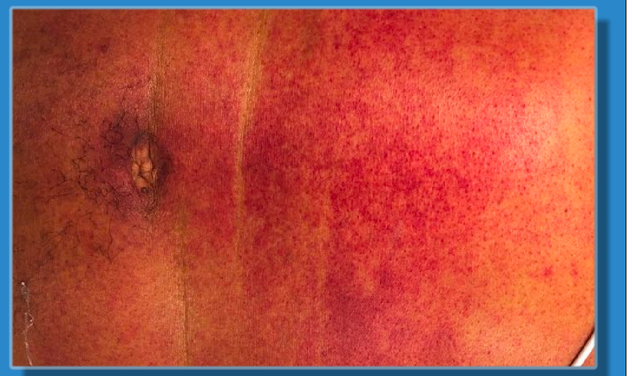

Figure 4 – Close up of erythematous petechial rash

Skin Biopsy

Skin biopsy revealed small vessel neutrophilic vasculitis with thromboses consistent with purpura fulminans. No IgA deposition was noted.

Conclusions

- PF is an acute purpuric rash characterized by coagulation of the microvasculature, leading to purpuric lesions and skin necrosis.
- It is rapidly progressive and is often accompanied by disseminated intravascular coagulation and circulatory collapse.
- However, it is extremely rare in immunocompetent individuals.
- Upon our literature review there are only handful of case reports that has described the association of ISP with PF in immunocompetent individual.
- Our case highlights such rare association and stress on early recognition and treatment as it can cause significant morbidity and mortality.