

Case presentation

IgA vasculitis (Henoch-Schönlein purpura)

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Abstract

We report the first case of direct immunofluorescence-proven immunoglobulin A (IgA) vasculitis associated with influenza infection in an adult patient. IgA vasculitis, which was previously known as Henoch-Schönlein purpura, is the most common systemic vasculitis in children but rarely occurs in adults. Disease onset often occurs after upper respiratory tract infections that are caused by adenovirus or enterovirus. The American College of Rheumatology defines IgA vasculitis by the presence of any two of the following four criteria: age \leq 20 years at disease onset, palpable purpura, acute abdominal pain, and a biopsy specimen that shows granulocytes in the walls of small arterioles or venules. Purpura, abdominal pain, and arthralgia comprise the classic triad. Renal involvement may be severe, especially in adults. Treatment is most often supportive but glucocorticoids and/or immunosuppressive agents are recommended in severe or refractory cases.

Case synopsis

History: A 32-year-old woman presented to the emergency room of New York University Langone Medical Center with a three-week history of nausea, vomiting, abdominal pain, malaise, arthralgias in the elbows and knees, and a purpuric eruption that began on her legs and spread to her abdomen and arms. A respiratory virus panel was positive for influenza A H3. She was started on oseltamivir and admitted to the Medicine Service. A skin biopsy was performed on the left upper leg. A colonoscopy showed mucosal ulcers and erythema in the rectum, sigmoid, and descending colon. The Rheumatology Service was consulted and the patient was started on naproxen 500 mg twice daily. The patient subsequently stopped developing new skin lesions and noted improvement of her systemic symptoms. She was discharged on hospital day four.

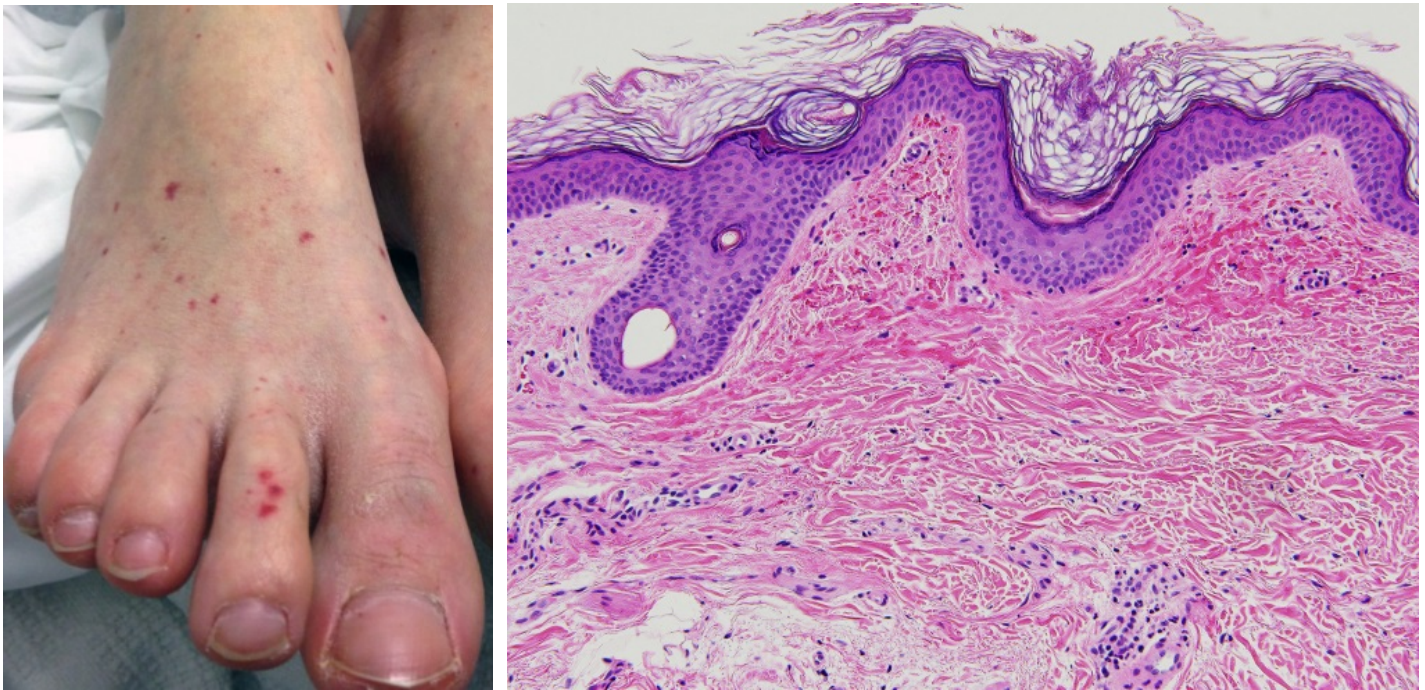
Two months later, the patient was admitted to the hospital with more extensive purpuric papules on her trunk and extremities. She also reported nausea, vomiting, arthralgias, and abdominal pain. The Dermatology Service evaluated the patient and obtained a skin biopsy specimen for direct immunofluorescence. She followed-up in Rheumatology Clinic two weeks later and was started on oral prednisone 10 mg daily. The patient failed to improve and was admitted to the hospital two weeks later. During this hospitalization she was treated with intravenous methylprednisolone 16 mg every eight hours. She was discharged on hospital day four on oral methylprednisolone 16 mg three times daily and colchicine 0.6 mg two times daily. The patient notes improvement of her arthralgias and the development of fewer skin lesions since starting this regimen.

Physical examination: On the trunk, arms, and legs, there were multiple, non-blanching, erythematous macules and papules.

Laboratory data: The white-cell count was 15.5 K/ μ L, hemoglobin 17.1 g/dL, and platelet count 157 K/ μ L. A comprehensive metabolic panel showed Na 129 mmol/L, creatinine 1 mg/dL, total bilirubin 3 mg/dL, aspartate transaminase 257 U/L, alanine

transaminase 97 U/L, and total protein 9.2 gm/dL. Urinalysis showed microhematuria. Anti-cardiolipin, anti-Smith, anti-DNA, anti-nuclear, anti-mitochondrial M2, anti-smooth muscle, anti-Ro, anti-La, and anti-neutrophil cytoplasmic antibodies; C3; C4; cryoglobulin; rheumatoid factor; human immunodeficiency virus antibody; hepatitis A antibody; hepatitis B antibody; and hepatitis C antibodies were normal or negative.

Histopathology: There is a sparse, perivascular infiltrate that consists predominantly of neutrophils with nuclear dust and extravasated erythrocytes.



Figures 1, 2. Purpuric macules and papules and dermal vessel vasculitis

Discussion

Diagnosis: IgA vasculitis (Henoch-Schönlein purpura)

Comment: Immunoglobulin A (IgA) vasculitis, which was formerly named Henoch-Schönlein purpura, is an immune-complex-mediated vasculitis that predominantly affects small blood vessels. The disease was first described in 1802 by Heberden and recognized in 1837 by Schönlein to be associated with purpura and arthralgias [1]. In 1874, Henoch added the presence of gastrointestinal symptoms to this syndrome and later, in 1899, added renal involvement [2]. In 1990, the American College of Rheumatology (ACR) proposed criteria for distinguishing IgA vasculitis from other vasculitides. Four criteria were identified: age ≤ 20 years at disease onset, palpable purpura, acute abdominal pain, and a biopsy specimen that showed granulocytes in the walls of small arterioles or venules. The presence of two of these criteria is considered diagnostic [3]. In 2012, the Chapel Hill International Consensus Conference replaced the eponym Henoch-Schönlein purpura with IgA vasculitis since IgA deposition in the vessel wall is the defining pathophysiologic feature [4].

IgA vasculitis is the most common systemic vasculitis that occurs in children, with an annual incidence of 3 to 26 per 100,000 children; it appears most frequently between the ages 4 and 7 [5]. The disease is rare in adults, with an annual incidence of 0.1 to 1.8 per 100,000 individuals [6, 7]. Men are more often affected than are women, with a male/female ratio of 1.5. IgA vasculitis usually occurs in the fall and winter in children and in the summer and winter in adults [8]. The disease usually is associated with a history of preceding illness, especially upper respiratory tract infection.

Purpura, arthralgia, and abdominal pain are known as the classic triad of IgA vasculitis. Symmetric palpable purpura occurs in nearly all patients, mainly in the pressure areas on the lower extremities. However, other sites also may be affected. In one-third of adults, the purpura is necrotic and/or hemorrhagic. Purpura typically disappears in about two weeks but may recur and become chronic. Arthralgias occur in approximately two-thirds of cases and mainly involve the knees and ankles. Arthritis is rare [9]. Gastrointestinal symptoms are related to bowel ischemia and edema. In a 2014 Spanish series, the most common gastrointestinal manifestations were abdominal pain (100%), nausea and vomiting (14.4%), melena and/or rectorrhagia (12.9%), and a positive stool guaiac test (10.3%) [10]. Glomerulonephritis occurs in 45 to 85% of cases [9]. Microhematuria is the earliest and most sensitive finding. Acute renal failure is rare in children but is noted in 30% of adults at the time of diagnosis.

Treatment of IgA vasculitis is supportive since most cases are self-limited. In cases that are refractory or severe, which includes those with gastrointestinal complications or glomerulonephritis, glucocorticoids and/or immunosuppressive drugs may be required. Studies support the use of colchicine, dapsone, anti-leukotriene agents, mycophenylate mofetil, cyclosporin, or rituximab in selected patient populations.

In the literature, there are several reported cases of IgA vasculitis that has occurred after influenza vaccination but only two reported cases that occurred after influenza infection [11, 12]. One report was of a 23-year-old woman with H1N1-associated IgA vasculitis. Although this patient met the ACR diagnostic criteria for IgA vasculitis, a skin biopsy was not performed [11]. In a separate reported case of a two-year-old girl, who also met the ACR diagnostic criteria, a direct immunofluorescence (DIF) was performed but was negative [12]. Therefore, our patient represents the first reported case of DIF-proven IgA vasculitis that is associated with influenza A infection. Clinicians should be aware of this relationship and its associated sequelae.

References

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