Small Vessel Vasculitis of the Skin

Robert G. Micheletti, MD[a,*], Victoria P. Werth, MD[a,b]

KEYWORDS

- Small vessel vasculitis of the skin • Cutaneous vasculitis
- Leukocytoclastic vasculitis • Hypersensitivity vasculitis • IgA vasculitis
- Henoch-Schonlein purpura

KEY POINTS

- Small vessel vasculitis of the skin most often presents with palpable purpura.
- Biopsies for routine processing and direct immunofluorescence are important to confirm the diagnosis and identify patients at higher risk of systemic complications.
- A thorough history, examination, and review of systems is important to identify triggers and screen for systemic vasculitis and underlying associated medical conditions.
- The severity of cutaneous involvement, the presence of systemic disease, and the duration of symptoms dictate management.
- Overall, the long-term prognosis of small vessel vasculitis of the skin, including immunoglobulin A vasculitis, is favorable, particularly in the absence of systemic disease.

INTRODUCTION

Small vessel vasculitis of the skin, which classically and most commonly presents as palpable purpura on the lower extremities, has been referred to interchangeably using a number of terms, each of which carries a slightly different shade of meaning. These include "cutaneous leukocytoclastic vasculitis," or simply "leukocytoclastic vasculitis," "hypersensitivity vasculitis," "cutaneous leukocytoclastic angiitis," and "cutaneous small vessel vasculitis," the term for skin-limited small vessel vasculitis favored in the recently revised 2012 Chapel Hill Consensus Criteria.

Regardless of the terminology used, it is important to note that the clinical presentation of small vasculitis in the skin must be considered initially a symptom rather than an entity in and of itself. In other words, when diagnosing skin-limited vasculitis, one

Disclosures: None.
[a] Departments of Dermatology and Medicine, Perelman School of Medicine at the University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA 19104, USA; [b] Departments of Dermatology and Medicine, Philadelphia Veterans Affairs Medical Center, Perelman School of Medicine at the University of Pennsylvania, 3400 Spruce Street, Philadelphia, PA 19104, USA
* Corresponding author.
E-mail address: Robert.Micheletti@uphs.upenn.edu

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must first rule out potential systemic manifestations (such as joint, kidney, or gastrointestinal involvement), underlying causes, and disease associations that affect management and prognosis. In addition, patients may start with skin-limited disease and develop systemic manifestations over time, necessitating careful follow-up. One specific subset of small vessel vasculitis of the skin deserves special mention; immunoglobulin (Ig)A vasculitis (otherwise known as Henoch–Schonlein purpura) is an IgA-mediated syndrome characterized by cutaneous, gastrointestinal, joint, and/or kidney involvement. Though the initial presentation of this condition can be indistinguishable from non–IgA-mediated small vessel skin vasculitis, its management and prognosis is different. Overall, however, small vessel vasculitis of the skin is most often acute and self-limited, and its prognosis is favorable, particularly when internal involvement is absent.

EPIDEMIOLOGY

Small vessel vasculitis of the skin affects both sexes equally and patients of all ages. Studies from Spain have reported an annual incidence of 30 cases of hypersensitivity vasculitis per million adults per year. By contrast, IgA vasculitis has an incidence of 14 cases per million adults per year. A recent, population-based study in Minnesota found the incidence of cutaneous leukocytoclastic vasculitis (including IgA vasculitis as well as other types of small vessel vasculitis) to be almost identical, at 45 cases per million. In children, by contrast, IgA vasculitis is much more common than non-IgA small vessel vasculitis of the skin. The presence of an associated underlying systemic vasculitis, connective tissue disease, or malignancy is much more common in adults than in children.[1–3]

PATHOPHYSIOLOGY

Small vessel vasculitis of the skin is mediated by immune complex deposition in affected vessels.[4] Circulating antigens due to medications, infections, connective tissue disease, or neoplasia are bound by antibodies, forming immune complexes that become lodged and trapped within small vessels, whether in the superficial dermis, most frequently in dependent areas, the joints, the gastrointestinal tract, or the glomeruli. These complexes, in turn, activate complement and induce an inflammatory response that leads to vessel destruction and extravasation of red blood cells. In the case of palpable purpura in the skin, this small vessel involvement accounts for the (usually) small size of the lesions; the complement cascade and subsequent inflammation account for the palpability and symptomatology of the lesions (which often burn); and the red blood cell extravasation results in nonblanching purpura (**Fig. 1**).[5]

ETIOLOGY

About half of cases are idiopathic.[6–8] The remainder are most often either drug induced or post infectious. Antibiotics, and β-lactams in particular, are common culprits, but almost any drug or drug additive can cause vasculitis.[9] Among infectious causes, upper respiratory infections (such as β-hemolytic *Streptococcus* group A) and hepatitis C are commonly implicated; however, numerous infectious triggers have been described.[10,11] Determining a specific cause can be difficult, particularly in the hospitalized setting, when many patients have both a history of recent infection and exposure to numerous medications.

Although palpable purpura is most often due to infection or a drug, it is important to remember that small vessel vasculitis can also be due to an underlying connective