TABLE 81-1 TYPICAL CLINICAL FEATURES* BASED ON VESSEL SIZE

LARGE	MEDIUM	SMALL
Limb claudication	Cutaneous nodules	Purpura
Asymmetrical blood pressures	Ulcers	Vesiculobullous lesions
Absence of pulses	Livedo reticularis	Alveolar hemorrhage
Bruits	Digital gangrene	Glomerulonephritis
Aortic dilatation	Mononeuritis multiplex	Mononeuritis multiplex
Aortic primary branch stenoses and/or aneurysms	Microaneurysms of mesenteric and/or renal branch arteries	Cutaneous extravascular necrotizing granulomas
		Splinter hemorrhages
		Scleritis, episcleritis, uveitis

*Constitutional symptoms in all types are fever, weight loss, malaise, anorexia, arthralgias, and myalgias.

epistaxis, septal perforations, and otitis media are common presenting manifestations. Chronic nasal cartilaginous inflammation and destruction may lead to the characteristic "saddle nose" deformity. Lung involvement in GPA or MPA can include pulmonary nodules (often cavitary in GPA), infiltrates, or diffuse alveolar hemorrhage due to capillaritis. Importantly, life-threatening pulmonary hemorrhage may manifest simply as progressive acute dyspnea with hypoxia or respiratory failure, and not necessarily hemoptysis. Laryngotracheal disease may manifest as hoarseness or subglottic stenosis; orbital pseudotumors can also occur from GPA, and they may cause optic nerve compression, proptosis, and/or extraocular muscle palsies.

The renal manifestations in GPA, MPA, or RLV are those of acute renal failure. Renal biopsy reveals pauci-immune necrotizing crescentic glomerulonephritis. Additional organ manifestations that may occur in either GPA or MPA include neurologic, cutaneous, musculoskeletal, cardiovascular, and constitutional signs and symptoms. Patients may have subacute symptoms (weeks to months of sinusitis, arthralgias, and fatigue) or may exhibit acute "pulmonary-renal syndrome" with rapidly progressive glomerulonephritis and life-threatening alveolar hemorrhage with respiratory failure.

In EGPA, the clinical features comprise severe asthma, eosinophilia (>1500 cells/mL), and vasculitis involving two or more organs. Additional organ involvement in EGPA may include the nervous system, kidneys, skin, heart, and gastrointestinal tract. Sinus involvement in EGPA is typically not destructive as in GPA, and pulmonary infiltrates may be fleeting.

The diagnosis of any of the AAVs is most frequently established by tissue biopsy (e.g., kidney, lung, skin, sinus, nerve). ANCA testing plays an important diagnostic role in suspected small vessel vasculitis and is helpful in differentiating between GPA and MPA. Almost 90% of patients with renal disease have positive ANCA on testing. Most GPA patients have the cytoplasmic (cANCA) antiproteinase 3 (anti-PR3) type, whereas most MPA patients have the perinuclear (pANCA) antimyeloperoxidase (anti-MPO) type. The differential diagnosis for positive ANCA testing includes drug-induced effects, infections, and other autoimmune conditions. EGPA can be distinguished from other AAVs on the basis of a prior history of adult-onset asthma or allergic rhinitis and blood or tissue eosinophilia.

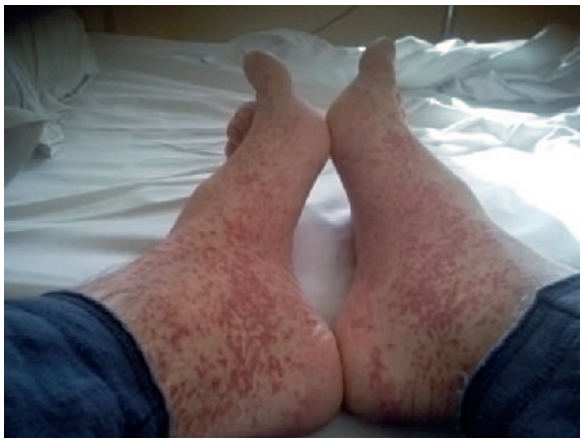

FIGURE 81-3 Palpable purpura on the lower extremities of a patient with small vessel vasculitis affecting the skin. These lesions are "palpable" because they are slightly raised (i.e., palpable even with the eyes closed), and they are typically nonblanching when palpated. (Modified from Molyneux ID, Moon T, Webb AK, Morice AH: Treatment of cystic fibrosis associated cutaneous vasculitis with chloroquine, J Cystic Fibrosis 9:439–441, 2010. Copyright 2010 European Cystic Fibrosis Society.)

The differential diagnosis for any small vessel vasculitis includes infection, disorders of coagulation, drug toxicity, atherosclerotic and embolic disease, malignancy, and secondary vasculitides associated with other autoimmune diseases.

Henoch-Schönlein Purpura

Patients with HSP have lower extremity purpura, arthritis (typically of the large joints), abdominal pain, and renal disease at presentation (Fig. 81-3). In children, arthritis and abdominal pain affect about 75% of patients; the gastrointestinal manifestations may precede the purpura by up to 2 weeks and include hematochezia. The most common renal manifestation is microscopic hematuria with or without proteinuria.

The diagnosis of HSP is most often based on clinical and laboratory evidence, although skin or renal biopsy revealing IgA deposition may be helpful in solidifying the diagnosis. By classification criteria from the EULAR, patients with HSP must have purpura or petechiae with lower limb predominance and at least one of the following: arthritis or arthralgias; abdominal pain; histopathology demonstrating IgA deposition; and renal involvement. The differential for HSP includes other causes of abdominal pain, other causes of purpura in childhood, and hypersensitivity vasculitis. Hypersensitivity vasculitis is also a small vessel vasculitis that may occur in both children and adults and may be idiopathic or triggered by infections or drug exposures. It typically manifests as an isolated cutaneous leukocytoclastic vasculitis that is self-limited with treatment of the underlying cause (e.g., treatment of infection, discontinuation of drug culprit).

Medium Vessel Vasculitis

Polyarteritis Nodosa

The most common organ systems affected in PAN are the gastrointestinal, renal, and nervous systems. Mesenteric aneurysms or stenoses resulting in gut ischemia lead to symptoms of abdominal pain or "intestinal angina" (pain after eating). Renal