INTRODUCTION

Microscopic polyangiitis (MPA) is an autoimmune disease characterized by pauci-immune, necrotizing, small-vessel vasculitis without clinical or pathological evidence of necrotizing granulomatous inflammation. Because many different organ systems may be involved, a wide range of symptoms are possible in MPA. Cutaneous involvement is not frequent. We describe a young girl who presented with multiple vasculitic skin lesions along with arthralgia and after the onset of illness it took 4 years for appropriate diagnosis and management of the disease.

ABSTRACT

Microscopic Polyangiitis (MPA) is an autoimmune disease characterized by pauci-immune, necrotizing, small-vessel vasculitis without clinical or pathological evidence of necrotizing granulomatous inflammation. Because many different organ systems may be involved, a wide range of symptoms are possible in MPA. Cutaneous involvement is not frequent. We describe a young girl who presented with multiple vasculitic skin lesions along with arthralgia and after the onset of illness it took 4 years for appropriate diagnosis and management of the disease.

Key words: Microscopic polyangiitis. Wegener's granulomatosis. Microscopic polyarteritis nodosa. ANCA-associated vasculitis. Small vessel vasculitis.

CASE REPORT

A 19-year-old female presented with history of recurrent attacks of painful swelling of joints and skin lesions for the last 4-1/2 years. Swelling started at knees and elbows and progressively involved other joints including shoulders, hips, wrists, ankles and small joints of hands and feet but there was no morning stiffness. ESR was 48 mm, hemoglobin 9.5 gm/dl with hypochromic microcytic picture. Rheumatoid factor and anti-nuclear factors were negative. She was previously diagnosed and managed as a case of non-specific polyarthritis. After about one week of onset of joint symptoms, she developed painful skin lesions on the limbs, which included blisters, erythematous papules and plaques and ulcers. She was then suspected as a case of Pemphigus vulgaris and managed successfully with systemic steroids but soon after withdrawal of steroids, symptoms recurred and she was hospitalized with generalized blistering and ulceration all over her body including oral mucosa, fever and amenorrhea. Her hemoglobin was 6.5 gm/dl and ESR 110 mm. There was hematuria, proteinuria, hypoproteinemia, hypoaetemia and hypokalemia. Serum urea and creatinine were also normal. Liver function tests, serology for hepatitis viruses, bleeding profile, serum glucose level, anti-nuclear factor and X-ray chest were all normal. Ultrasonography of abdomen and pelvis revealed renal
parenchymal disease-grade II and minimal ascites. Renal histopathology and immunofluorescence revealed crescentic glomerulonephritis and linear IgG and complement C3 deposits of moderate intensity along the glomerular basement membrane. Fibrin deposits were also detected in the same glomeruli and in the tubular walls. These changes were consistent with Good-pasture’s syndrome. p-ANCA was positive but anti-glomerular basement membrane antibodies and antigliadin, antibodies were negative. Complement C3, C4 and IgA-levels were within normal range. No definitive diagnosis could be made and she was managed symptomatically by various physicians on different occasions but her disease continued with waxing and waning course. Six months back, patient presented with flared-up extensive skin and mucosal lesions (blisters, ulcers, erythematous plaques with central necrosis, scarring) and painful swelling of ankles, wrists, elbows and shoulders (Figure 1). Skin biopsy demonstrated necrotizing vasculitis with moderate neutrophilic infiltration in the papillary to middle dermis. Keeping in view the previous history and investigations and the present skin lesions along with joint involvement, a diagnosis of microscopic polyangitis was made and the patient was put on prednisolone 60 mg daily along with NSAIDs and H-2 blocker. She improved considerably during 02 weeks (Figure 2). Dose of prednisolone was decreased gradually and then alternate day prednisolone was instituted along with azathioprim 50 mg/day. Patient is on follow-up and is doing well.

**DISCUSSION**

The first description of a patient with MPA appeared in the European literature in the 1920s. However, until the late 1940s, concept of this disease as a separate entity from PAN and other forms of vasculitis did not begin to take root in medical thinking. Even today, some confusing terms for MPA (e.g., “microscopic polyarteritis nodosa” and “hypersensitivity vasculitis”) persist in the medical literature. In 1994, The Chapel Hill Consensus Conference recognized MPA as its own entity and distinguished it clearly from PAN, WG, CLA, and other diseases.\(^1,2\) Constitutional symptoms of MPA, like other vasculitides, include fever, malaise, fatigue, myalgia, weight loss and flu-like syndrome. Skin manifestations (palpable purpura, livedo reticularis, skin ulcerations, necrotizing nodules, gangrene, urticaria, digital ischemia) and arthralgias are seen in almost 50% cases. Pulmonary manifestations may include hemoptysis, dyspnea and cough (in about 10%). Cardiovascular and gastrointestinal involvement is rare. Nervous system manifestations may be in the form of seizures but more commonly as mononeuritis multiplex.\(^3,6\) MPA and WG are two characteristic ANCA-associated small vessel vasculitides where ANCA is positive in 80-95% of cases. Much like other autoantibodies (e.g. anti-double stranded DNA in systemic lupus erythematosus or antiglomerular basement membrane antibodies in Goodpasture’s syndrome), antineutrophil cytoplasmic antibodies have provided physicians with a useful serological test to assist in diagnosis of small-vessel vasculitides, including WG, MPA, CSS, and their localized forms.\(^4,5\) ANCA appears to induce vasculitis by directly activating neutrophils, therefore, no immunoglobulins or complement components are detected in the vasculitis lesions; hence, ANCA-Associated Vasculitides (AAV) is called pauci-immune vasculitis.\(^5\) Clinically, MPA closely resembles other conventional vasculitides, but the presence of Myeloperoxidase (MPO)-ANCA and the absence of immunoglobulins and complements on vessel walls distinguish MPA from other immune complex-mediated small vessel vasculitides. Laboratory studies in ANCA-Associated Vasculitides may reveal leukocytosis, anemia, elevated erythrocyte sedimentation rate, proteinuria, hematuria and raised urea and creatinine levels. WG and CSS also seem to be part of a same clinical spectrum as of MPA. However, the
absence of granuloma formation and sparing of the upper respiratory tract are features of MPA.\textsuperscript{7}

Characteristic vasculitis in small vessels, including arterioles, capillaries, and venules, distinguishes MPA from PAN.\textsuperscript{7,8}

MPA generally has a rapidly progressive course, but recently there have been some reports of slowly progressive disease. In a recent case series of 8 patients by Kawakami et al., 2 patients had slowly progressive course and these were diagnosed 10 years after initial manifestation of the disease, while remaining 6 had the diagnosis within 3 months.\textsuperscript{3} There were certain differences in laboratory and histopathological findings and between the two groups. Our case clearly seems to be one of slowly progressive type of MPA as described by Kawakami et al. This was diagnosed 4 years after initial manifestation. Early renal involvement was suggestive of segmental necrotizing glomerulonephritis (characteristic feature of MPA). Moderately elevated levels of ESR and ANCA along with upper and mid dermal moderate neutrophilic infiltration on skin biopsy examination all supported the diagnosis of slowly progressive category of MPA (as against very high ESR and ANCA and reticular dermis and subcutaneous involvement in rapidly progressive disease). To avoid serious morbidity or mortality by early treatment of MPA, it becomes imperative for clinician to timely diagnose the disease.

REFERENCES