Herpetic whitlow during immunosuppressive therapy for Wegener’s Granulomatosis

Dilek Solmaz¹, Ezgi Atalay², Banu Lebe³, Pınar Çetin¹

Abstract

Skin involvement may occur in patients with Wegener’s granulomatosis (polyangiitis with granulomatosis; WG) and is more frequent in the generalised form. However, when a patient with vasculitis develops digital ulceration, in addition to disease activation, other pathologies should be considered. One of them may be the herpetic whitlow mimicking paronychia. Here, we present a patient who developed herpetic whitlow during the course of immunosuppressive therapy due to WG. Just before the third course of cyclophosphamide therapy, she was re-admitted to the outpatient clinic with the above-mentioned ulcerated lesions. On physical examination, there was erythema and a painful, crusted ulceration in the distal phalanx of the right index finger involving the proximal nail fold. Similar lesions were also present in her lower lip. Due to the absence of clinical and laboratory findings suggesting the activation of WG and the Tzanck smear result, which is compatible with herpes virus infection, we do not believe that WG was responsible for our patient’s complaints. All of the patient’s lesions completely disappeared following the interruption of immunosuppressive therapy.

Keywords: Wegener’s granulomatosis, herpetic whitlow, immunosuppressive therapy

Introduction

Skin involvement may occur in patients with Wegener’s granulomatosis (polyangiitis with granulomatosis; WG) and is more frequent in the generalised form. Skin lesions may also be an early prodromal sign of renal disease and other types of disease activation. Necrotising ulcerations resembling pyoderma gangrenosum are not uncommon. Leukocytoclastic vasculitis was the most common cutaneous pathologic pattern (1). However, when a patient with vasculitis develops digital ulceration, in addition to disease activation, other pathologies should be considered. One of these may be herpetic whitlow mimicking paronychia. Paronychia, an infection affecting the folds of the tissue surrounding a fingernail or toenail, is frequently precipitated by localised trauma (2). The responsible organisms in acute paronychia are usually bacteria and fungi, but viral infection, particularly herpes simplex virus-1 (HSV) or HSV-2, have also been reported in rare cases. Here, we present a case who developed herpetic whitlow, which was clinically difficult to distinguish from paronychia, during the course of immunosuppressive therapy due to WG.

Case Presentation

A 59 year-old woman presented with the painful ulceration in her right hand finger and lower lip for a one-week period. Three months ago she was first consulted with the complaints of purulent sputum, nasal discharge and the presence of infiltration and cavitary lesions on chest X-ray. At that time, laboratory analysis had shown elevation in serum creatinine (2.6 mg/dL [normal range 0.8-1.2 mg/dL]) and C-reactive protein (CRP 18.7 mg/L [normal range 0.5-5 mg/L]) levels and also in the erythrocyte sedimentation rate (ESR 44 mm/h). Her perinuclear anti-neutrophil cytoplasmic antibody (p-ANCA) was found to be positive by immunofluorescence and anti-myeloperoxidase (MPO)-ANCA by ELISA. Her renal biopsy revealed a crescentic glomerulonephritis. Based on her clinical, laboratory and pathologic findings, she was diagnosed as WG and put on high dose methylprednisolone and pulse cyclophosphamide treatment. Just before the third course of cyclophosphamide therapy, she was re-admitted to the outpatient clinic with the above-mentioned ulcerated lesions. On physical examination, there was erythema and a painful, crusted ulceration in the distal phalanx of the right index finger involving the proximal nail fold. Similar lesions were also present on her lower lip (Figure 1a). This time, laboratory analysis revealed a normal complete blood count, blood chemistry and acute phase response. Fungal and bacterial cultures from the lesions were negative. Tzanck test (one from a finger and one from a lip lesion) revealed acantholytic cells and multinucleated giant cells (Figure 1b) suggesting herpes virus infection. All of the patient’s lesions completely disappeared with the interruption of immunosuppressive therapy.
Discussion

Wegener’s granulomatosis (WG) is a necrotizing vasculitis affecting small and medium-size blood vessels with granuloma formation (3). It is the prototype of those conditions associated with Anti-neutrophil cytoplasmic antibody (ANCA) (4). The most common symptoms are related to the upper and lower respiratory tract. Renal involvement is usually associated with the renal involvement (4). Skin rash was reported in 14-47% of the patients, either during or at the onset of disease and may develop on unusual sites such as the trunk, neck and face (5, 6). Cutaneous lesions may be in the form of palpable purpura, subcutaneous nodules, ulcers, pustules and pyoderma gangrenosum (7). Due to the absence of clinical and laboratory findings suggesting the activation of WG and the Tzanck smear result, which is compatible with herpes virus infection, we do not believe that WG was responsible for our patient’s complaints.

Herpetic whitlow is a rare viral infection of the fingers by HSV. It is acquired by direct inoculation or by direct spread from mucosal sites at the time of primary infection. It is a self-limiting disease, with a reported incidence of around 2.4 cases per 100,000 per year (8, 9). Medical personal, children and people who have the habit of nail biting are the most at risk (2). Some of the agents used in cancer chemotherapy like mTOR inhibitors and epidermal growth factor inhibitors (10-12) have been reported to be associated with periungual toxicity; however, we are not aware of such a lesion with cyclophosphamide.

The diagnosis of herpetic whitlow may be confirmed with a Tzanck test. This is usually self-limited and resolves within two to three weeks. Anti-viral treatment within the first 48 hours of onset may lessen the severity of symptoms (2). As our patient was in a relatively late phase of disease, we did not treat her with anti-viral agents and all of the symptoms and signs cleared.

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Ethics Committee Approval: N/A.

Informed Consent: Written informed consent was obtained from the patient who participated in this case.

Conflict of Interest: No conflict of interest was declared by the authors.

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References

10. Sibaud V, Dalenc F, Mourey L, Chevreau C. Paronychia and pyogenic granuloma induced by new antircancer mTOR inhibitors. Acta Derm Venereol 2011; 91: 584-5. [CrossRef]