Polyarteritis nodosa as a presenting symptom of Behçet's disease

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ABSTRACT:

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A 30-year-old male with fever, multiple subcutaneous nodules on upper and lower extremities. He had history of recurrent oral ulcers for 2 times a year. The skin biopsy on the leg was done at the lesion and showed necrotizing vasculitis of the medium-sized vessels. He was diagnosed with polyarteritis nodosa (PAN) due to weight loss, testicular pain and biopsy of medium-sized artery containing neutrophils. Because of clinical suspected Behçet's disease, the pathergy test was done and showed positive histology. Therefore, the final diagnosis is PAN in accompany with Behçet's disease. These two conditions have been reported very rarely in the literature. Most reported cases had a chronic relapsing course and PAN is considered as a bad prognostic factor of Behçet's disease.

Key words: Behçet's disease, Polyarteritis nodosa

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Introduction

Behçet's disease is a rare inflammatory disorder with unknown etiology. It is characterized by recurrent oral ulcer, genital sore, ocular inflammation, cutaneous lesion and vasculitis. The worldwide incidence ranges from 0.1/1000 to 1/10,000. It appears to be found between second to fourth decade of life with female predominance[1,2]. The prognosis is variable, however males with early age of onset is associated with significant morbidity and mortality[3].

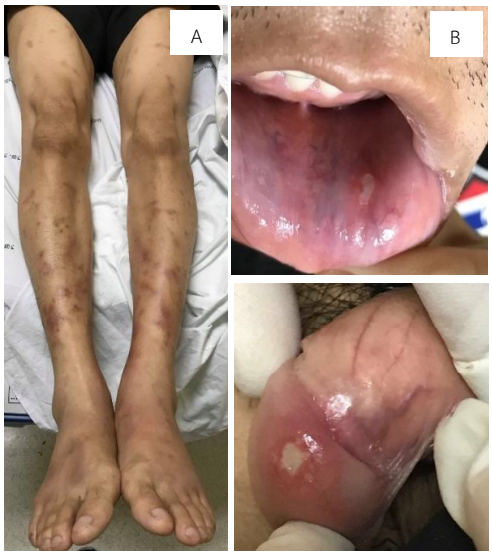

Figure 1 (A) Multiple ill-defined painful erythematous subcutaneous nodules with some reticulated erythematous-brownish patches on both legs. (B) Whitish painful shallow ulcers surrounding erythematous patches on lower labial mucosa and gland of penis

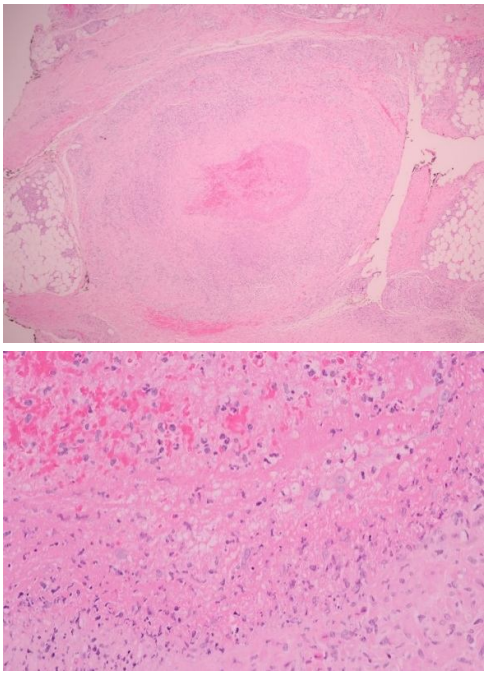

Figure 2 Dense inflammatory cells infiltration in the medium size vessel. The cells composed of neutrophils, nuclear dusts, lymphocytes and fibrinoid necrosis

Case Report

A 30-year-old male presented with fever, multiple subcutaneous nodules on upper and lower extremities for 2 weeks, followed by orogenital ulcers which developed 3 days after visiting the hospital. He also had history of recurrent oral ulcer 2 times a year. Nevertheless, this was the first episode of genital ulcer. On physical examinations, his body temperature was 38.5°C. There were multiple ill-defined painful erythematous subcutaneous nodules with some

reticulated erythematous-brownish patches on all upper and lower extremities. (Figure 1A) Whitish painful shallow ulcers on lower labial mucosa and gland of penis were also presented. (Figure 1B). Other examinations were unremarkable.

Laboratory revealed leukocytosis (leukocyte count 11,600/cumm with 71.7% of neutrophils) and slightly elevation of liver enzyme (alanine transaminase 126 U/l (5-34 U/l), aspartate transaminase 60 U/l (0-55 U/l), gamma-glutamyl transferase 92 U/l (9-36 U/l)). Gram strain from genital ulcer showed few gram negative bacilli but negative for bacterial culture. Tzanck smear and polymerase chain reaction (PCR) for herpes infection from orogenital lesions were negative. Other investigations including anti-human immunodeficiency virus (Anti-HIV), venereal disease research laboratory (VDRL) and treponema pallidum haemagglutination assay (TPHA) were all negative.

Skin incisional biopsy was done from the subcutaneous nodule on his left leg. The histopathological finding showed dense inflammatory cells infiltration in the medium-sized vessel, composed of neutrophils, nuclear dusts, lymphocytes and fibrinoid necrosis (Figure 2). Therefore, medium vessel vasculitis was the diagnosis for the lesion on extremities. Colchicine 0.6 mg orally twice daily and topical triamcinolone oral paste (0.1%) applying on oral ulcers were initiated. Due to finding of gram negative bacilli from genital ulcer which suspected of chancroid, azithromycin 1,000 mg single dose was given.

One week after treatment the patient developed testicular pain. He also had weight loss of 4 kilograms in a month.

According to 1990 classification criteria, this patient met the definitive diagnosis for polyarteritis nodosa (PAN) consisting of weight loss, testicular pain and biopsy of medium-sized artery containing neutrophils[11]. Because of history of recurrent oral ulcers and vasculitis from skin biopsy, pathergy test was performed and the result showed positive histology. According to 2010 Revised International Criteria for Behçet's disease the total score this patient satisfied was 4 points (2 points from recurrent oral ulcers, 1 point from vasculitis and 1 point from positive pathergy), which is compatible with Behçet's disease. Magnetic resonance angiography (MRA) of abdominal and thoracic aorta showed no evidence of micro aneurysm. No evidence of uveitis and retinal vasculopathy from ophthalmologist examination. Prednisolone (15 mg/day) and azathioprine (50 mg/day) were given as specific treatment for PAN. All lesions resolved after 2 weeks.

Discussion

Behçet's disease can present with variable cutaneous characteristics including Sweet’s

syndrome-like lesion, pyoderma gangrenosum-like lesions, erythema multiforme-like lesions, erythema nodosum-like lesions, palpable purpura, hemorrhagic bullae, extragenital ulcerations, superficial migratory thrombophlebitis and acral purpuric papulonodular lesions[4, 5].

The prevalence of systemic vasculitis in Behçet's disease is variable 1.8-33% which can affect any size or type of vessels. This condition occurs predominantly in male patient. The most frequent cutaneous vasculitis in Behçet's disease is venulitis, while arterial involvement is far less common. The arterial vasculitis in Behçet's disease can occur around 12% of systemic vasculitis[6, 7,8].

Polyarteritis nodosa is type of systemic vasculitis which target medium-sized arterial blood vessel and typically presented with painful or tender subcutaneous nodules on the lower extremities which resemble erythema nodosum-like lesions in Behçet's disease. But, PAN commonly has clinical sign of vasculitis such as livedo racemosa, cutaneous necrosis and ulcers that can be used to distinguish from erythema nodosum-like lesions in Behçet's disease. For histopathology, neutrophils are the predominant inflammatory cells in vasculitis and also in neutrophilic dermatosis like Behçet's disease. However, arterial vasculitis is rarely seen as the presenting symptom of Behçet's disease.

The management of Behçet's disease is difficult because of its rarity, variable course and lack of studies. The therapeutic approach depended on severity and organ involvement. This case had cutaneous lesions and systemic vasculitis, therefore, colchicine and azathioprine was given as suggested by the EULAR recommendation guideline[12]. For treatment of PAN, hepatitis B viral infection and extracutaneous involvement should be investigated. Systemic glucocorticoid (prednisolone 15 mg/day) was prescribed as first line treatment in this case[13]. There are overlapping medications recommended for these two conditions which comprise mainly of immunosuppressants. Long-term monitoring is necessary for the two diseases, as both have chronic relapsing and remitting course.

Conclusion

Our case is among the few reported cases in the literature of Behçet's disease with erythema nodosum-like lesions which the histopathology showed typical findings of polyarteritis nodosa (PAN). Most reported cases had a chronic relapsing course. Polyarteritis nodosa is considered as a bad prognostic factor of Behçet's disease[9,10]. In our case, we described a patient who developed erythematous subcutaneous nodules on extremities or erythema nodosum-like lesion with histological finding compatible

with PAN. Because of the chronic recurrent course of polyarteritis nodosa (PAN) and poor prognosis in young male adult for Behçet's disease, our particular patient requires close monitoring and long term follow up for other systemic involvement.

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