

A case of multiple eruptive dermatofibromas in a Chinese man with chronic inactive hepatitis B infection

Sir,

We report the case of multiple eruptive dermatofibromas in a Chinese man with chronic inactive hepatitis B infection. We were unable to find any previous reports of such association.

A 35-year-old man presented for evaluation of multiple asymptomatic lesions on his trunk, which appeared within a period of approximately 6 months [Figure 1a-c]. On physical examination, more than 100 reddish-brown papules were observed on his trunk, mainly on the chest. They ranged in size from 2 to 10 mm, were symmetrical, firm, reddish-brown, nonconfluent and remained stable over time. No lesions were found on the head, limbs or mucous membranes. There was no regional lymphadenopathy. The patient had no antecedent trauma. He was in good health previously, and both medical history and family history were unremarkable.

Dermoscopy of a representative lesion showed a central reddish-brown patch with peripheral light brown network. In some lesions linear or arborizing telangiectasia were seen, and in some, both the features were noted [Figure 2a-b]. Histopathological examination of a representative lesion revealed a fibrous spindle-cell proliferation in the dermis with a swirling storiform appearance and the periphery had entrapment of dermal collagen fibers [Figure 3]. The diagnosis of multiple eruptive dermatofibromas was made, based on the clinical manifestation and dermatoscopic findings, along with histopathological confirmation.

Laboratory tests showed a raised triglycerides level (1.91 mmol/L; normal range 0.4–1.73 mmol/L); ultrasonography showed densely enhanced liver parenchyma echo; and further investigation revealed that HBsAg, HBcAb, and HBeAb were positive. HBV-DNA level was less than

1000 IU/ml. Other laboratory investigations including full blood count, liver function tests, renal function tests and blood glucose were normal. Lymphocyte subgroup detection revealed decreased CD3 + T cell count (456.00; normal range 770.00–2860.00), CD4 + T cell count (308.00; normal range 500.00–1440.00), CD8 + T cell count (116.00; normal range 238.00–1250.00), and a raised CD4/CD8 ratio (2.66; normal range 1.00–2.47).

No other abnormal laboratory results were noted, including human immunodeficiency virus test and autoimmunity tests such as antinuclear antibody, antihepatocyte membrane antibody, antismooth muscle antibody, antiliver and kidney microsomal antibody, antisoluble liver antigen, antimitochondrial antibody and antimitochondrial antibody M2. As the patient recounted no other remarkable symptoms, he was diagnosed as chronic inactive hepatitis B infection and hypertriglyceridemia based on the laboratory examination. The patient was recommended for follow-up every 3 months with no active treatment.

Dermatofibroma is a benign cutaneous lesion which generally occurs as a solitary reddish-brown or dark-brown firm papule or nodule on lower legs in middle-aged individuals with a slight female preponderance. However, multiple eruptive dermatofibromas is a rare skin condition, defined as presence of more than 15 lesions or 5-8 dermatofibromas that appear

within a period of 4 months.¹ Less than 100 cases of multiple eruptive dermatofibromas have been reported in the literature, and it is usually associated with autoimmune diseases and immunosuppression.²

The presence of multiple eruptive dermatofibromas is frequently associated with systemic lupus erythematosus or, less commonly, other autoimmune diseases, such as myasthenia gravis, pemphigus vulgaris, ulcerative colitis, sarcoidosis and Graves' disease.²⁻⁴ The association of multiple eruptive dermatofibromas with hepatitis B infection has not been described previously. The pathogenesis of dermatofibroma is unclear. Some patients developed multiple eruptive dermatofibromas after the intake of immunosuppressive drugs⁵ and in the context of human immunodeficiency virus infection,¹ suggesting an immunopathogenic etiology. It was proposed that dermatofibroma represents an abortive immunoreactive process mediated by dermal dendritic cells, and the development of multiple eruptive dermatofibromas can be triggered by the inhibition of regulatory T cells in immunodeficiency states or as an exaggerated response to a putative pathogen that could not be cleared by the suppressed immune system.

Studies have revealed defective T-cell immunity in hepatitis B virus infection, which is described as the



Figure 1a: Multiple dermatofibromas presenting as symmetrical, firm, reddish-brown, nonconfluent papules on the chest



Figure 1b: Multiple dermatofibromas with the same clinical features on the back



Figure 1c: Close view of the papules on the chest

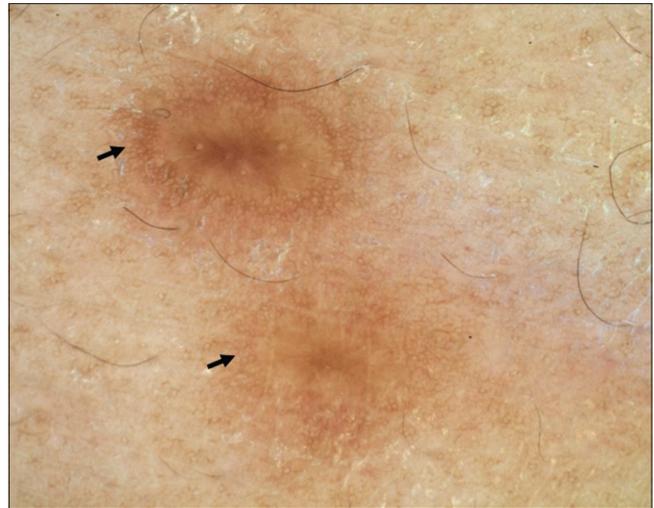


Figure 2a: A central light to dark brown patch with a peripheral light brown network (black arrow) (noncontact, polarized light)

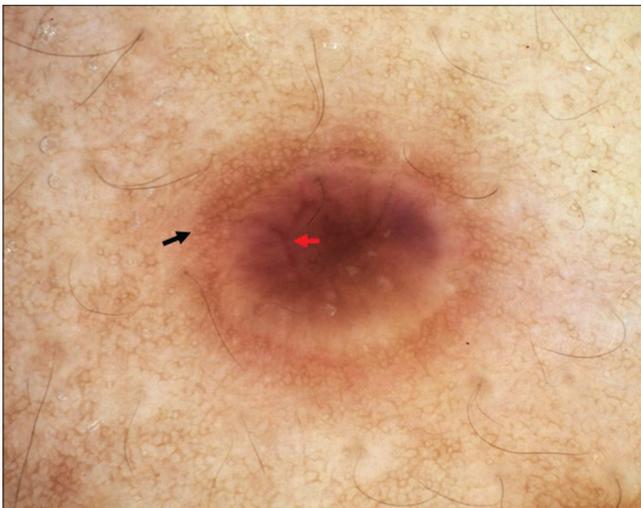


Figure 2b: A central dark reddish-brown patch with a peripheral light brown network (black arrow) and linear arborizing telangiectasia (red arrow) (noncontact, polarized light)

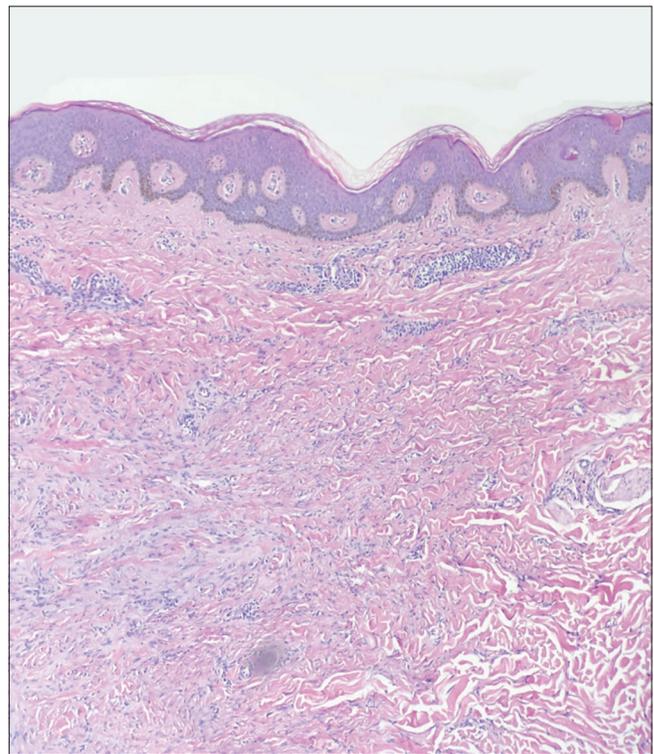


Figure 3: Bundles of fibrous spindle cells in the dermis (H and E, ×100)

‘exhaustion’ state, characterized by poor effector cytotoxic activity, impaired cytokine production, and sustained expression of multiple inhibitory receptors, such as programmed cell death-1, lymphocyte activation gene-3, cytotoxic T-lymphocyte-associated antigen-4, and CD244.⁶

In our case, the patient showed decrease in regulatory T cells. Although some previous studies reported multiple eruptive dermatofibromas developing in patients with diabetes mellitus, obesity, hypertension, and hypertriglyceridemia as in our case, it seems to be questionable whether there is any correlation between multiple eruptive dermatofibromas and these diseases.² In conclusion, more cases and research are required to speculate on the pathogenesis and it is important to screen for altered immunity in patients with multiple eruptive dermatofibromas.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understand that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Access this article online

Quick Response Code:	Website: www.ijdv.com
	DOI: 10.4103/ijdv.IJDVL_306_19

How to cite this article: Li C, Wang W, Zhang L, Xu L. A case of multiple eruptive dermatofibromas in a Chinese man with chronic inactive hepatitis B infection. *Indian J Dermatol Venereol Leprol* 2020;86:72-5.

Received: May, 2019. **Accepted:** September, 2019.

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