

## **2. Clinical Characteristics, Laboratory Findings and Nailfold Capillaroscopy Microscopy Patterns in a Monocentric Series of 123 Patients with Idiopathic Pernio**

Sara Hussein, Uyen Doan T., Martial Koenig, France Joyal.  
Centre Hospitalier Universitaire de Montréal- CHUM, Montréal, Québec, Canada.

Few studies have looked at the characteristics of patients diagnosed with pernio and the significance of the use of capillaroscopy in these patients. The objective of this study is to characterize the clinical features and laboratory findings of pernio, and to determine the nailfold capillaroscopy microscopy (NCM) patterns in patients with the diagnosis of idiopathic pernio.

This is a single-center study of patients referred to the vascular medicine unit for evaluation of paroxysmal vasculature acrosyndromes. Clinical features, laboratory findings and NCM patterns of 123 patients diagnosed as having idiopathic pernio were prospectively recorded from 2005 to 2015. NCM was performed on 8 digits, using a quantitative method: images were recorded using a digital camera and further analyzed to determine capillary diameter and density, and to rule in or rule out microvasculature abnormalities. Twenty healthy patients without any vasculature acrosyndromes and 22 patients with primary Raynaud's phenomenon were used to compare NCM features.

A total of 123 patients were diagnosed as having idiopathic pernio (male/female ratio 1:4.6, median age at diagnosis 42.9 years [39.7;45.6]) and compared to 20 healthy patients (male/female ratio, 1:5.6, median age 32.7 [32.3;43.7]) as well as to 22 patients with Raynaud's phenomenon (male/female ratio, 1:3.4, median age 50.7 [44.2;54.4]).

In the pernio group, the median capillary diameter was 43.4 $\mu$ m [43.5;48.1] as compared to 39.6 $\mu$ m [35.3;42.0] in healthy patients ( $p=0.0211$ ). There was no other significant difference for NCM features among the three groups. There was no difference when evaluating for disease activity, status of smoking, or recurrence of illness.

Increased nailfold capillary diameter was observed in patients with pernio when compared to healthy patients regardless of the disease activity, smoking status or recurrence of illness. These findings suggest that capillaroscopy shows microvascular abnormalities suggesting a vasodilation mechanism. As pernio preferentially affects the feet, further studies are needed to specifically assess the NCM pattern on feet and to determine the pathophysiology of this disease.