

LETTER TO EDITOR

Checklist for Nailfold Capillaroscopy Findings in Systemic Sclerosis: ABCDEGH

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Dear Editor,

Nailfold capillaroscopy (NFC) is a noninvasive diagnostic technique for the evaluation of microcirculation in the proximal nailfold (PNF). A primitive instrument for magnifying was used to perform NFC in the 17th century. Research in the 19th century starting with that of Maurice Raynaud established correlation between NFC abnormalities and disease conditions. The NFC is now widely utilized by dermatologists and rheumatologists to monitor evolution and response to treatment in connective tissue diseases.¹

The NFC is ideally performed in the fourth finger of the nondominant hand as the PNF is more transparent and there are lesser NFC artifacts in the nondominant hand. Capillaries in the PNF flow parallel to the surface of the skin with each capillary being U-shaped with two arms forming a convex loop distally resembling a hairpin (Fig. 1). They are arranged homogeneously and have a uniform morphology at a density of 30 linear capillaries per 5 mm.²

Two basic NFC patterns are recognized in connective tissue disorders, namely systemic lupus erythematosus (SLE) pattern and scleroderma-dermatomyositis (SD) pattern. The SLE pattern is characterized by tortuous widened meandering loops with minimal dilatation and dropouts. Maricq criteria of SD pattern includes capillary dilatation, budding capillaries, loss of capillary loops, and capillary hemorrhage.³

Cutolo et al⁴ classified NFC findings in systemic sclerosis into three patterns, namely, early, active, and late. Giant

capillaries and hemorrhages are the first NFC findings to appear in early pattern (Fig. 2); hence, they are very useful for the early diagnosis of the disease. These two findings become more obvious in active pattern (Fig. 3). Presence of bushy capillaries, hazy background, capillary disorganization, and avascular areas are NFC features of advanced systemic sclerosis (Fig. 4).



Fig. 1: Normal NFC pattern showing regularly arranged U-shaped hairpin vessels in the proximal nailfold

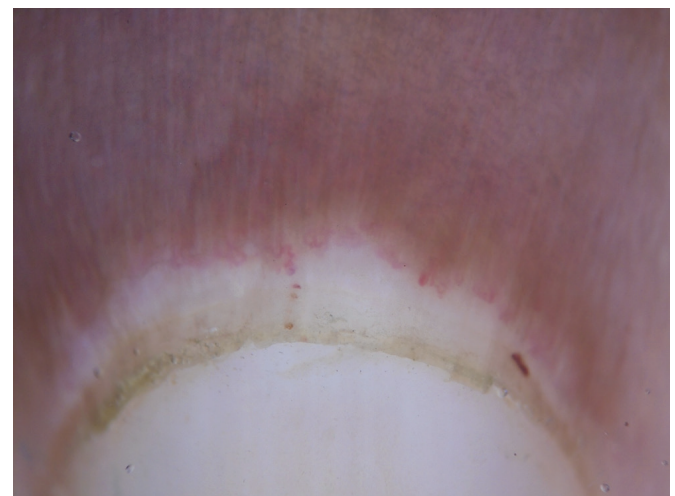


Fig. 2: Early systemic sclerosis NFC pattern:

Architecture—Preserved

Background—Clear

Capillary distribution—Organized

Dropouts—Absent

Enlarged/Giant capillaries—Few

Hemorrhage—Few

(Image courtesy: Department of Dermatology, CMC, Vellore)

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Table 1: NFC patterns in systemic sclerosis (Image courtesy: Department of Dermatology, CMC, Vellore)

<i>NFC pattern</i>	<i>Early</i>	<i>Active</i>	<i>Late</i>
Architecture	Preserved	Slightly ramified capillaries	Markedly ramified/bushy capillaries
Background	Clear	Slightly hazy	Extensively hazy
Capillary distribution	Organized	Mild disorganization	Marked disorganization
Dropouts	Absent	Few	Numerous
Enlarged or Giant capillaries	Few	Numerous	Few
Hemorrhage	Few	Numerous	Few

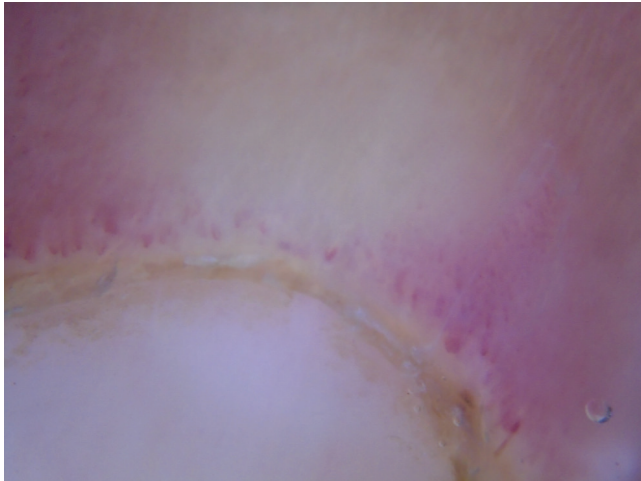


Fig. 3: Active systemic sclerosis NFC pattern:
Architecture—Ramified capillaries
Background—Slightly hazy
Capillary distribution—Mild disorganization
Dropouts—Few
Enlarged/Giant capillaries—Numerous
Hemorrhage—Numerous
 (Image courtesy: Department of Dermatology, CMC, Vellore)

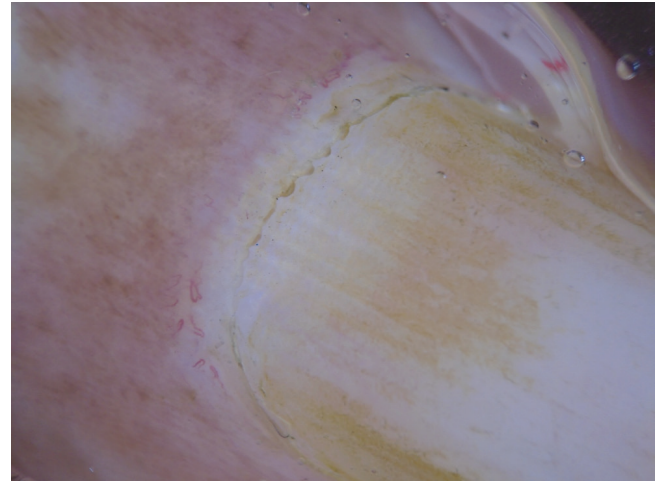


Fig. 4: Late systemic sclerosis NFC pattern:
Architecture—Bushy capillaries
Background—Extensively hazy
Capillary distribution—Marked disorganization
Dropouts—Numerous
Enlarged/Giant capillaries—Few
Hemorrhage—Few
 (Image courtesy: Department of Dermatology, CMC, Vellore)

Therefore, a checklist comprising six NFC findings helps in differentiating between early, active, and late systemic sclerosis NFC pattern (Table 1). It can be remembered as an acronym “A to G without F in between,” as listed below:

1. **A**rchitecture
2. **B**ackground
3. **C**apillary distribution
4. **D**ropouts
5. **E**nlarged/**G**iant capillaries
6. **H**emorrhage

Though high-magnification nailfold videocapillaroscopy (×200) is currently considered as the gold standard for nailfold capillary examination, dermatoscopy is a very convenient technique sufficient to identify abnormal NFC patterns.⁵ The checklist and the acronym help in easily remembering all NFC findings in each of the three NFC patterns.

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