Nail Fold Capillary Pattern in Systemic Scleroderma

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study using just capillaroscopy, since only single cases in our very large series did not show any abnormalities in the nail fold capillaries [2]. There is also a characteristic capillaroscopic pattern of dermatomyositis, which may be of importance in differentiating it from scleroderma: the loops are giant with irregular shape, showing various deformities and dilatations throughout the whole length (bushy capillaries), and not only in the central part as in Raynaud's loops, with a very enlarged subpapillary plexus and hemorrhages [3]. These abnormalities were found in 61% of cases, in some patients the loops were of Raynaud's type, in some the capillaries were unchanged. Repeated examinations for several years

I read with great interest the paper by Ohtsuka and Ishikawa [1] on the statistical definition of nail fold capillary pattern in systemic sclerosis with videographs quantitatively analyzed by a computer and an image processor. This study presents a step forward in nail fold capillaroscopy. The conclusion of the study was that 9% of patients with systemic sclerosis showed a normal capillary pattern, a percentage which is much higher than the one we found in our / (up to 20 years) have shown remarkable t changes in the capillaroscopic pattern with the disappearance of bushy capillaries and z extravasations, whereas repeated studies in patients with systemic scleroderma showed persistence or progression of capillary ab-t normalities characteristic of systemic sclerosis. The authors indicate a normal cap-z illaroscopic pattern in systemic lupus ery-t thematosus, and we found in a proportion of s cases (about 60%) divergent abnormalities y of the loops, some with the characteristic pattern of Raynaud's phenomenon [4].z However, the capillary changes in sys- ;, temic lupus erythematosus are not character-í. istic of the disease and therefore have no di-s agnostic significance.

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I believe that further studies by the authors, probably with evaluation of some additional parameters, will allow to quantify also abnormalities seen in dermatomyositis and possibly even in systemic lupus ery-thematosus.

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Reply

ratio was the same as ours (60%), showed a nail fold capillary abnormality characteristic of the disease. This means that the abnormality you detected may be the same as the one we observed, even if the methods used were different. And we found that repeated examinations for several years showed remarkable changes in the capillaroscopic pattern, especially in DM patients. Our results indicate that 36% of normal controls showed a systemic lupus erythematosus pattern, but 50%

Thank you very much for your excellent suggestions and questions about our paper and further studies, which I would like to answer. Our result was obtained by using a mathematical method, canonical discriminant analysis; its calculations were all done by a computer (NEC PC9801VX) and its program (Handbook Statistics of Personal Computer). We showed a simple result with two groups of subjects in our paper [1]. We had two reasons for the choice of this analysis: one was that the four parameters we measured showed statistically the same difference between normal control and systemic lupus erythematosus and between systemic sclerosis and dermatomyositis (DM), and the other reason was its clear-cut result.

We got, however, another statistical result (table 1), which we did not show in our paper, from four groups using the same mathematical method. Only 15% of systemic sclerosis cases showed DM patterns, but 60% of DM cases showed a DM pattern. The result indicates that only a small proportion of systemic sclerosis patients shows a DM pattern and that DM patients showed a pattern different from that of systemic sclerosis patients. You observed that 61% of DM patients, which

Table 1. Statistical definition of nail fold capillary pattern by canonical discriminant analysis in normal controls and patients with connective tissue diseases

DM pattern

SS pattern

SLE pattern

Subjects

Normal pattern

Figures in parentheses indicate percentages. SLE = Systemic lupus erythematosus; SS = systemic sclerosis.

of patients with systemic lupus erythematosus showed a normal pattern. This result indicates that normal control and systemic lupus erythematosus cases overlap in their capillary pattern using the four parameters we used. We are now trying to evaluate the difference of capillaries between normal controls and systemic lupus erythematosus with additional parameters using another mathematical method. We hope to publish the results in some journal in the near future.

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