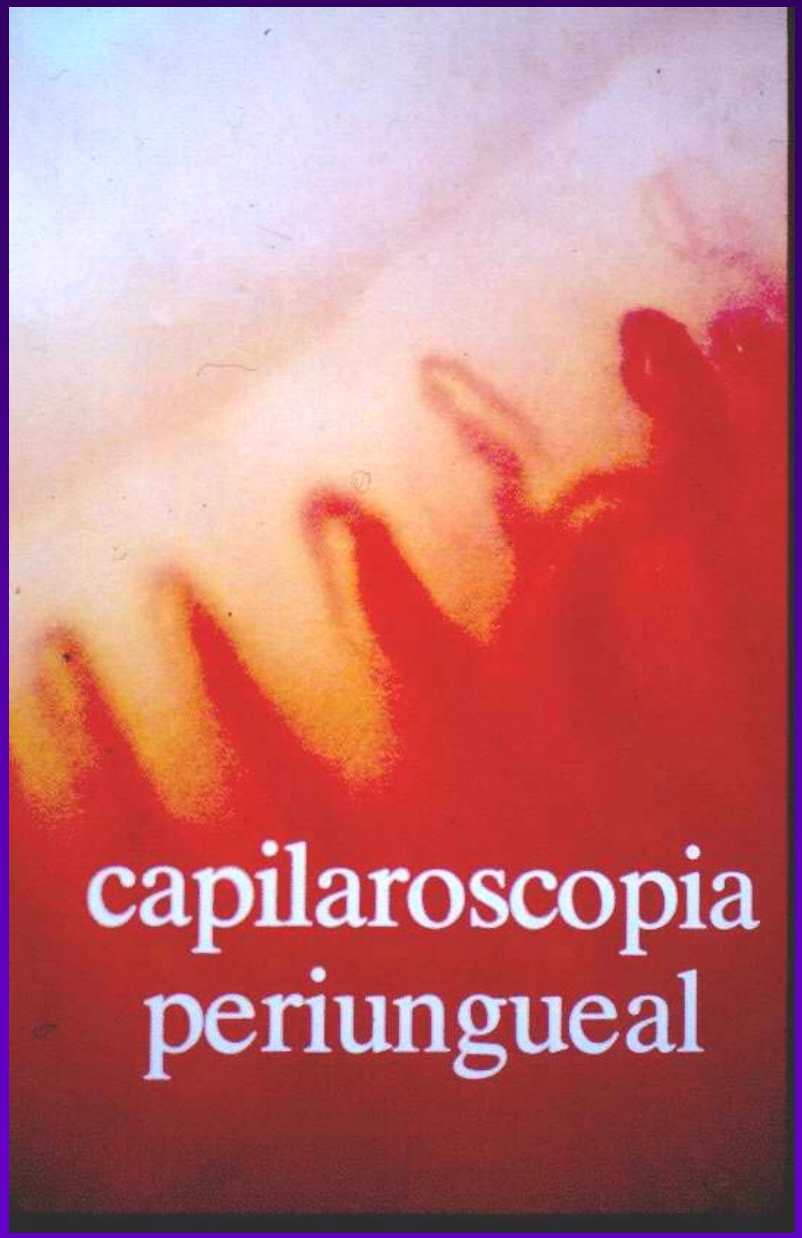
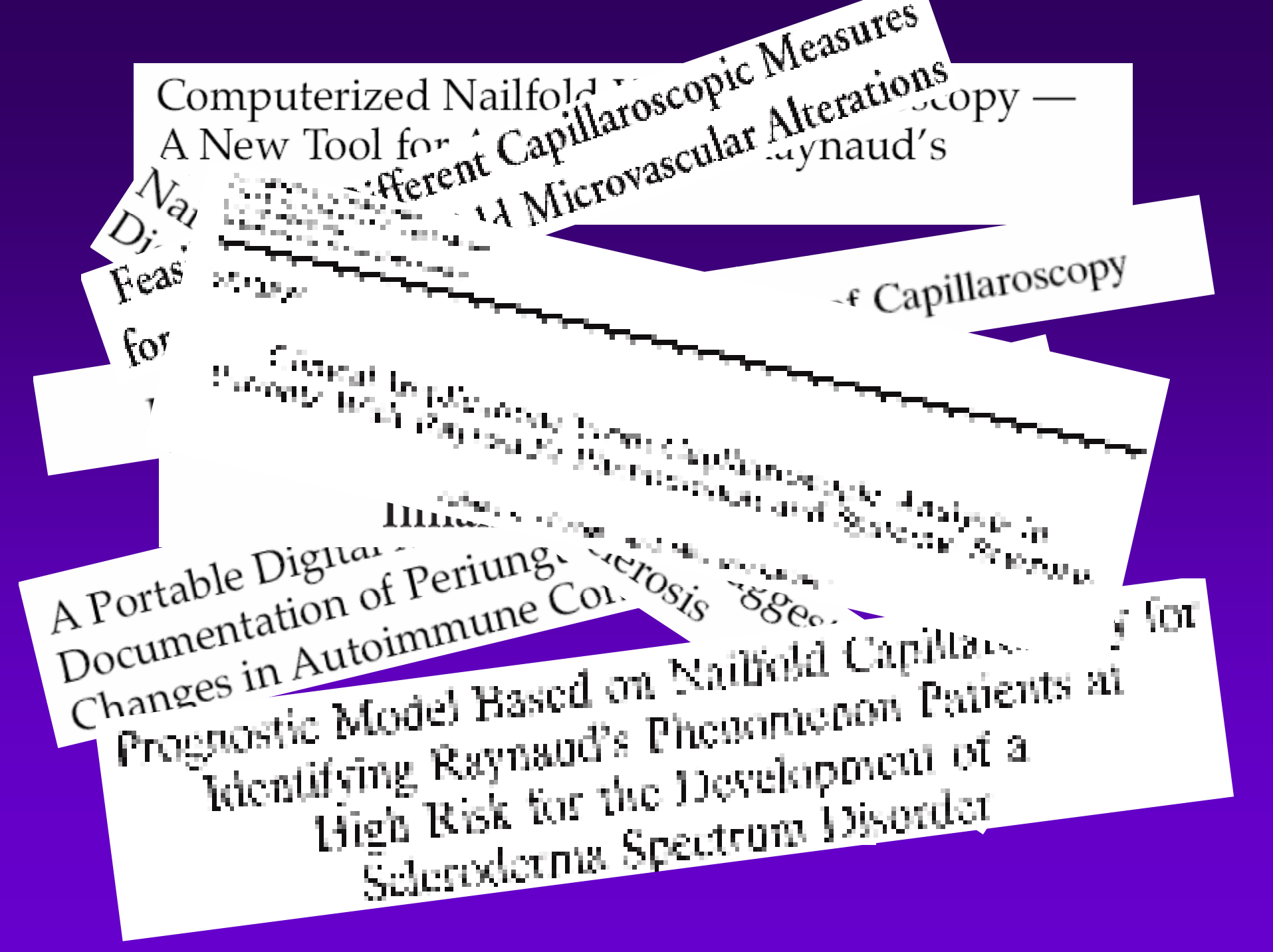


Universitat Autònoma de Barcelona

UTILIDAD CLÍNICA DE LA CAPILAROSCOPIA

Dr. V. Fonollosa Pla
Dra. CP. Simeón Aznar

Vall d'Hebron
Hospital General


Computerized Nailfold
A New Tool for
Different Capillaroscopic Measures
Microvascular Alterations
Capillaroscopy
A Portable Digital
Documentation of Periung
Changes in Autoimmune Co
Prognostic Model Based on Nailfold Capilla
Identifying Raynaud's Phenomenon Patients at
High Risk for the Development of a
Scleroderma Spectrum Disorder

CAPILAROSCOPIA. Reseña histórica

Malpighi (1628-1694)

Microcirculación

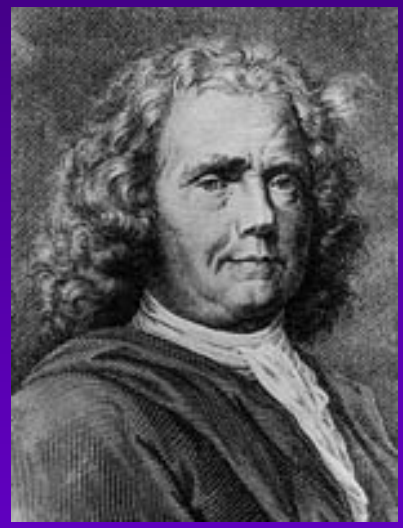
Purkinje (1823): Capilares cutáneos con lupa

Lombard (1911): capilaroscopia periungueal

Müller (1922): Recopilación

Brown (1925): Megacapilares esclerodérmicos

Maricq (1978): Capilaroscopia, aplicación clínica

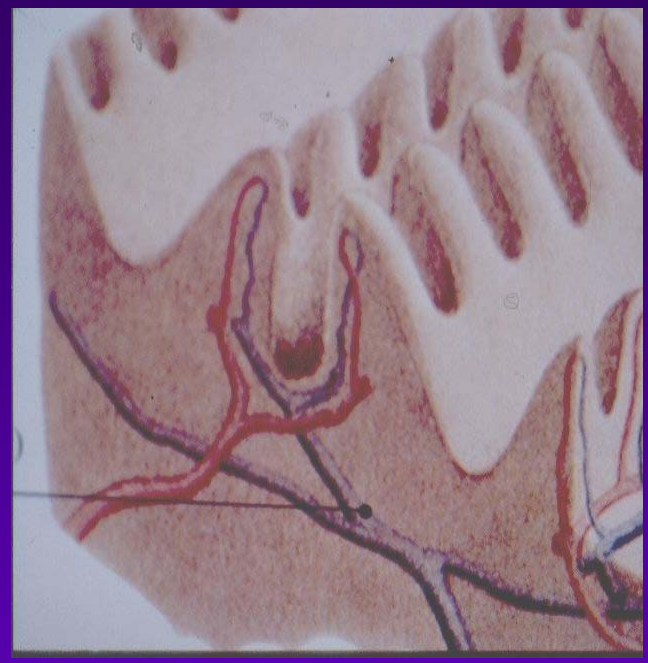


Boerhaave (1668-1738)

Observación de los capilares conjuntivales

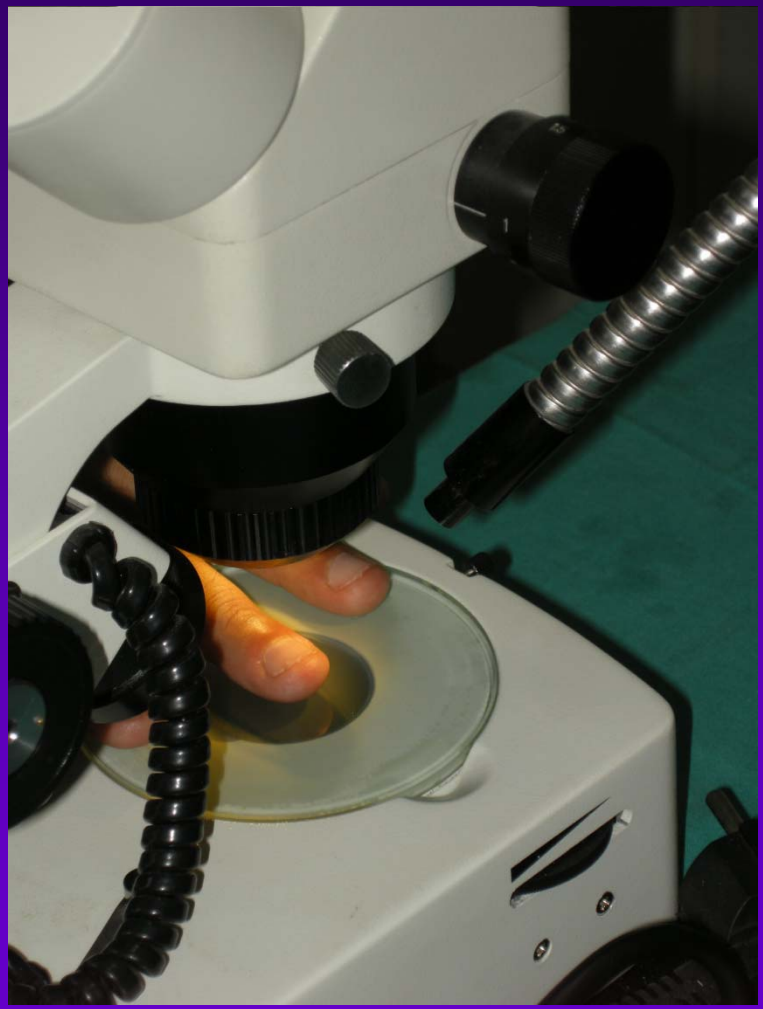
CAPILAROSCOPIA

Microcirculación cutánea
Porción venular
Porción arteriolar



Morfología capilar
Lecho periungueal

CAPILAROSCOPIA



Técnica

- Simple-incruenta
- Microscopio óptico
- 50 – 200 aumentos
- Luz fría

Método

- Estudio cualitativo
- Estudio cuantitativo
- Tejido peripapilar
- Tejido subpapilar
- Estudio funcional

CAPILAROSCOPIA. Limitaciones

Baja especificidad

Falta de criterios de normalidad

Falta de terminología uniforme

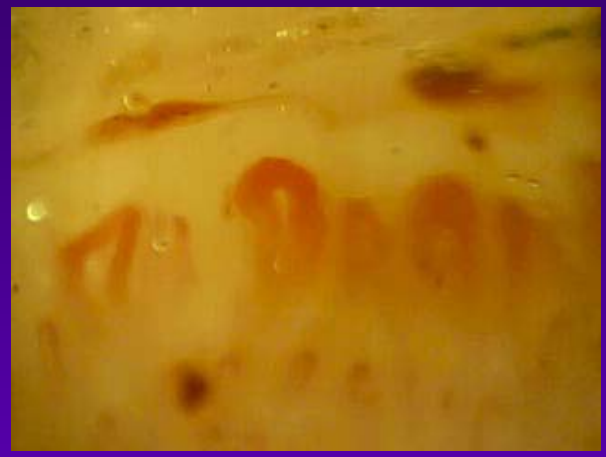
Dificultad para incorporar análisis cuantitativos

Dependencia de la experiencia e interpretación del observador

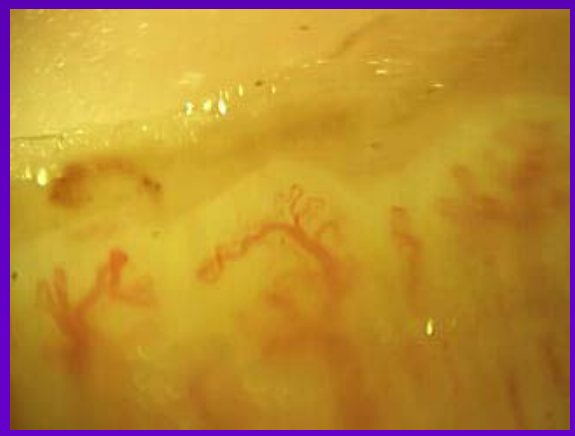
CAPILAROSCOPIA. Semiología

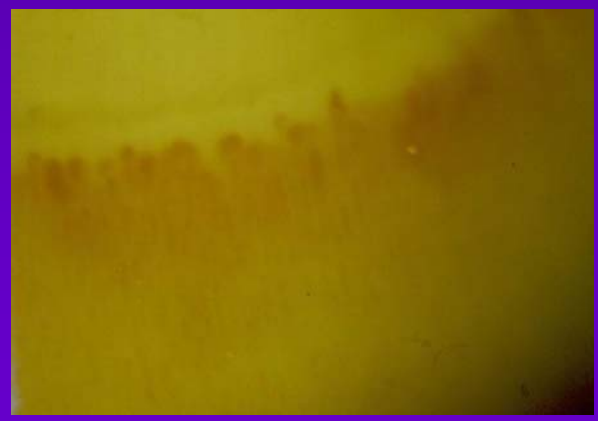
Sinuosidades

Ramificaciones



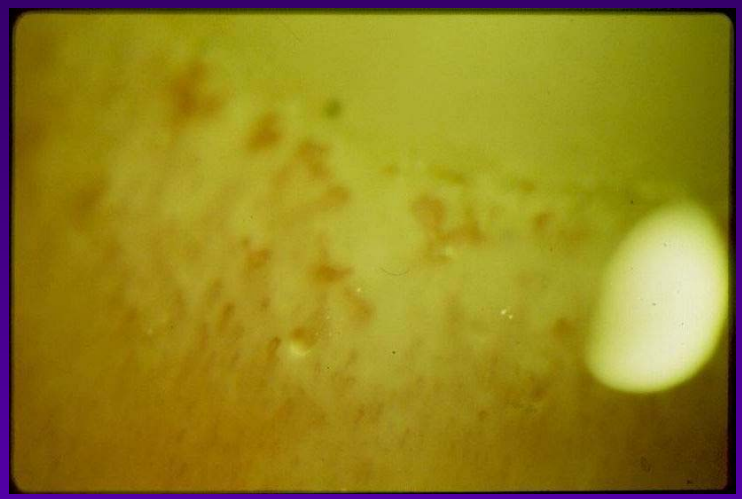
Dilataciones



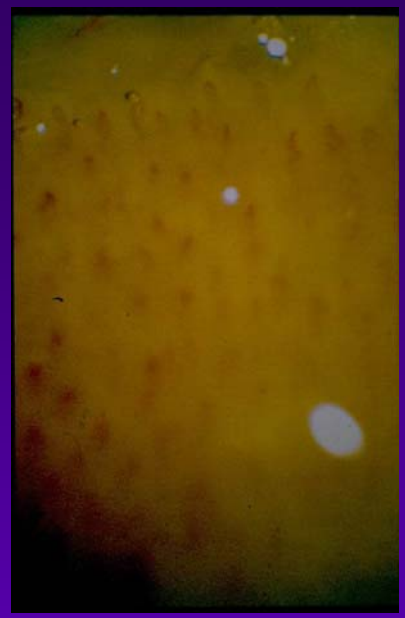


CAPILAROSCOPIA. Semiología

Estasis

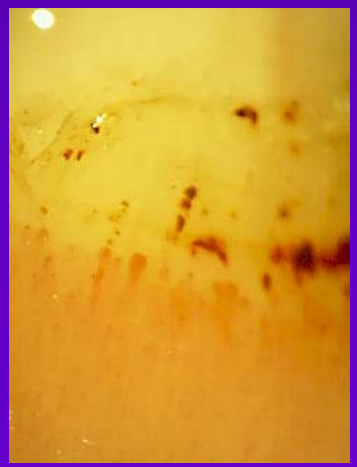


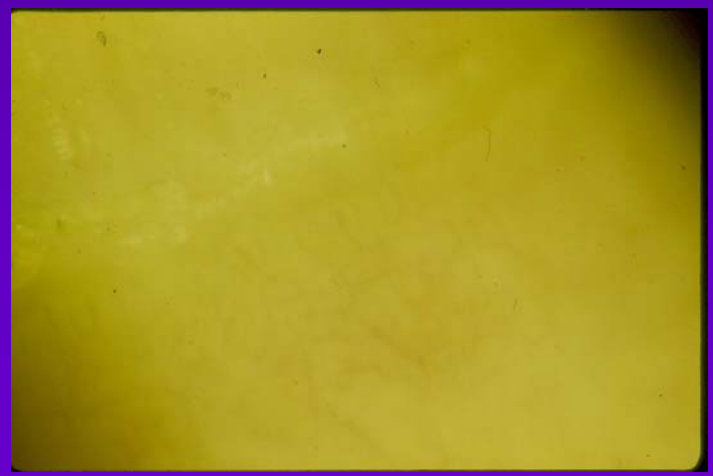
Pérdida capilar



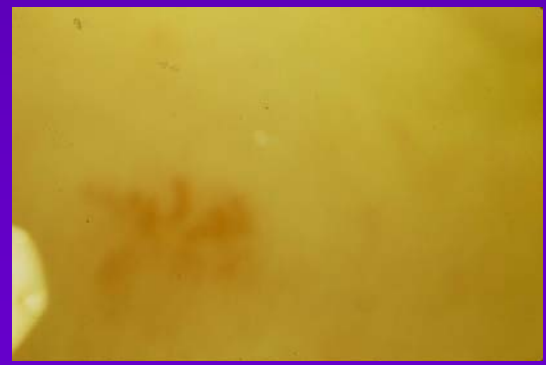
Banco de peces

Hemorragia





Telangiectasias



CAPILAROSCOPIA y ENFERMEDAD

Diagnóstico - Pronóstico

Acrosíndromes vasculares

Conectivopatías

Arteriopatías

Enfermedades cutáneas

Enfermedades hematológicas

Enfermedades neuropsiquiátricas

CAPILAROSCOPIA. Acrosíndromes

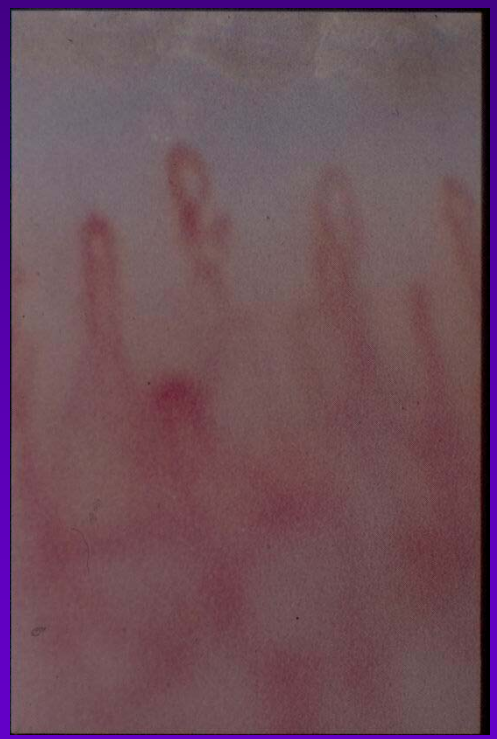
Acrocianosis

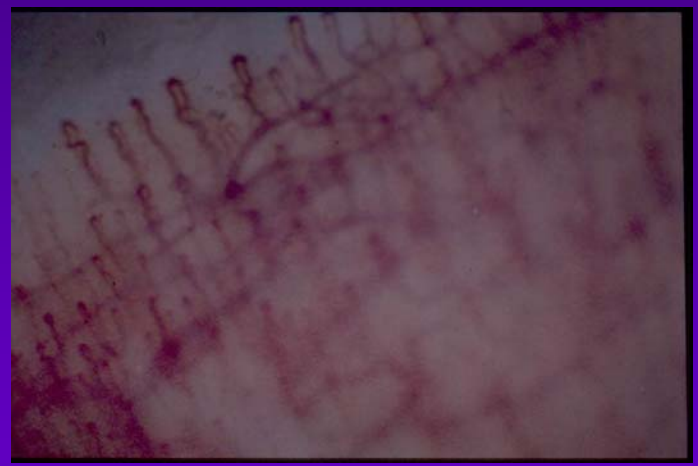
Livedo reticularis

Fenómeno de Raynaud

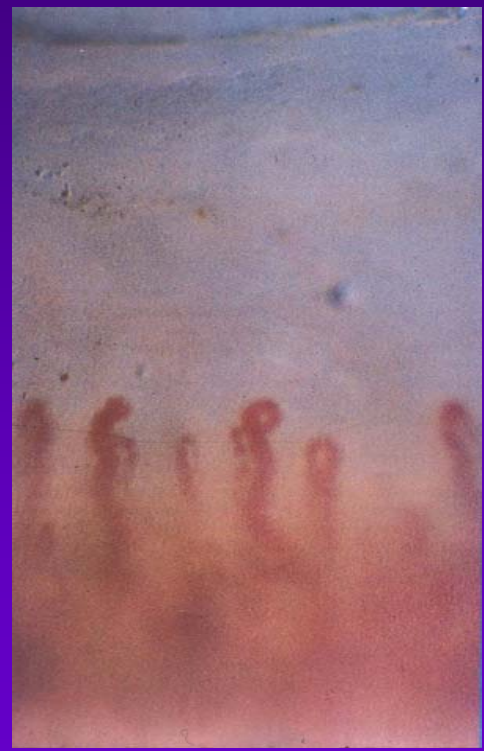
Eritromelalgia

ACROCIANOSIS



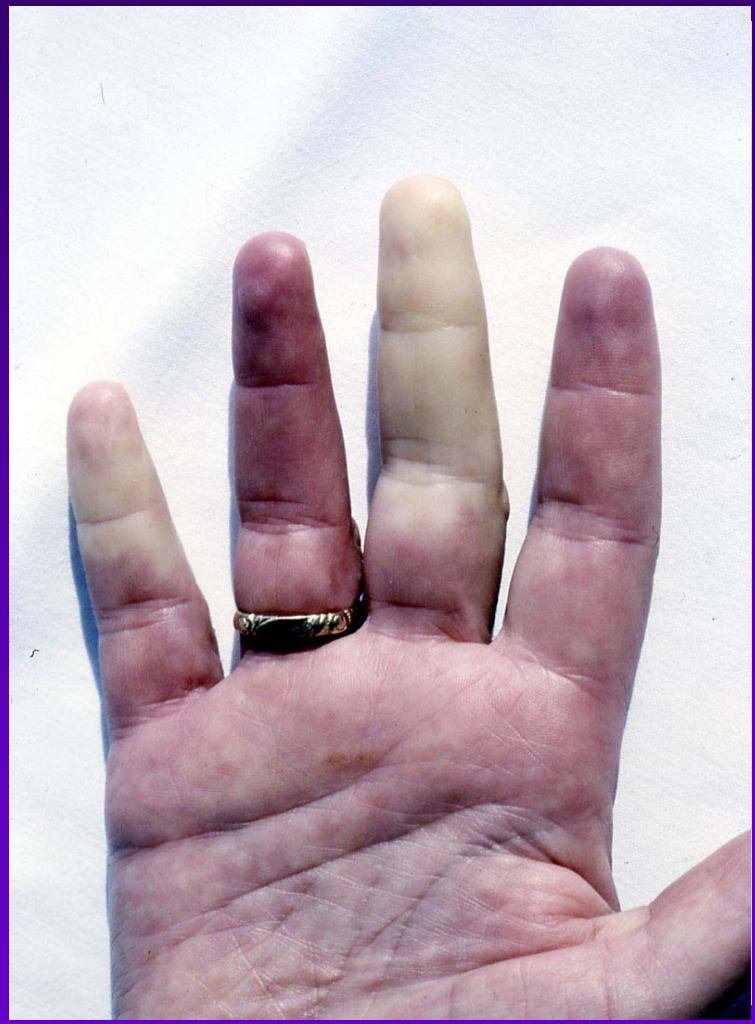


Estasis vascular



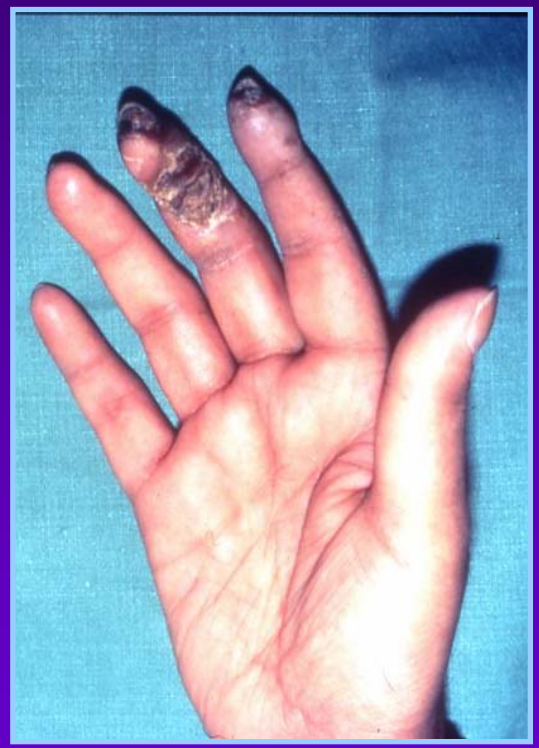
Maurice Raynaud

Fenómeno de Raynaud



F.Raynaud. Clasificación

Primario



Secundario

Capilaroscopia

Fenómeno de Raynaud 1º. Criterios

-Crisis de vasospasmo
(palidez o cianosis de partes acras)

-Pulsos periféricos presentes

-Ausencia de úlceras digitales

-Capilaroscopia normal

-AANs: negativos

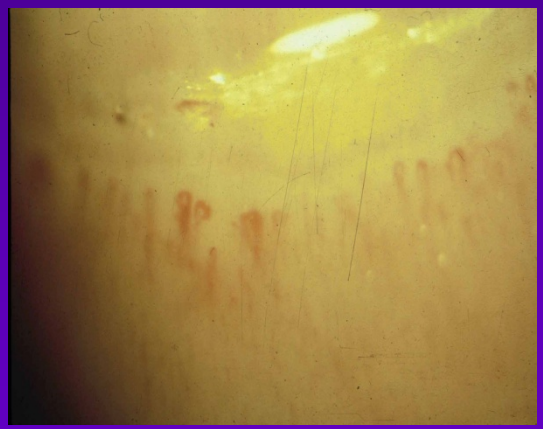
-VSG: normal

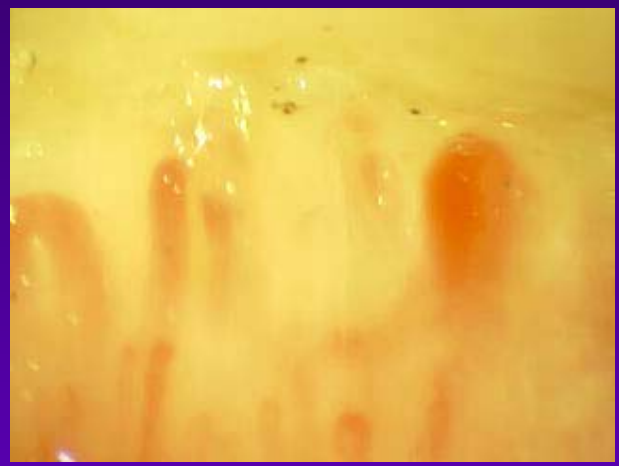
LeRoy y Medsger, 1992

Capilaroscopia: fenómeno de Raynaud

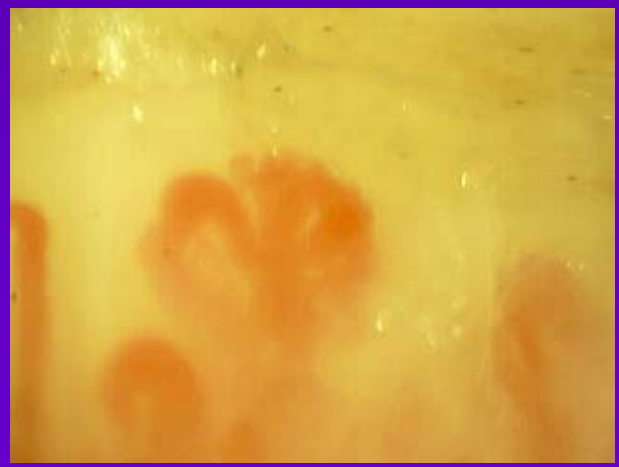
Fenómeno de Raynaud 2º

Dilatación

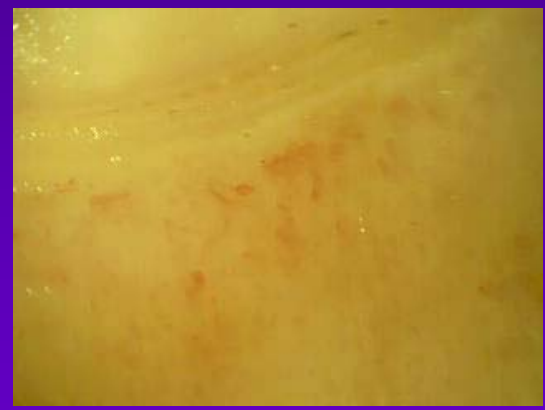




Megacapilares



Pérdida capilar



Fenómeno de Raynaud 2º. Causas

Conectivopatías
Oclusión arterial
Endocrinopatías
Neoplasias
Anomalías hematológicas
Micotraumatismos
Alteraciones vasospásticas
Infecciones
Fármacos
Síndrome del aceite tóxico

F. Raynaud y Enfermedades del tejido conjuntivo

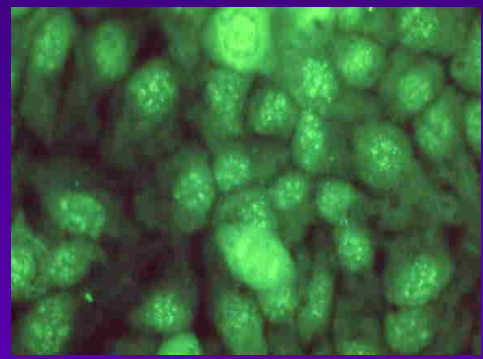
• Esclerodermia	95%
• EMTC	91%
• LES	10-45%
• Síndrome de Sjögren	35%
• Dermatomiositis	20-30%
• Artritis reumatoide	10-20%

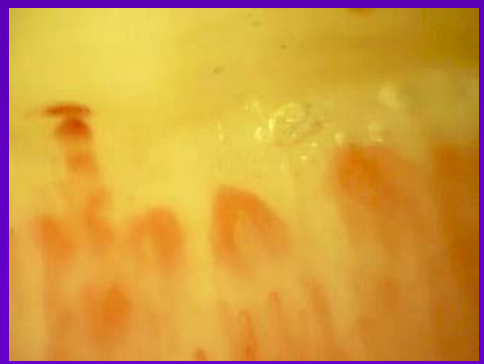
Autoantibodies and Microvascular Damage Are Independent Predictive Factors for the Progression of Raynaud's Phenomenon to Systemic Sclerosis

A Twenty-Year Prospective Study of 586 Patients, With Validation of Proposed Criteria for Early Systemic Sclerosis

Koenig M et al. *Arthritis and Rheumatism*. 2008;58:3.902-12

Last, this study is the first to validate the criteria for early SSc that were proposed by LeRoy and Medsger, but were not validated (21). According to these criteria, when the presence of RP is subjective only (i.e., by patient report only), as in the present study, early SSc may be diagnosed when *both* an SSc pattern on NCM and SSc-specific autoantibodies are observed (21). In our cohort, patients in whom both predictors were present at baseline were 60 times more likely to develop definite SSc than were patients without these predictors.

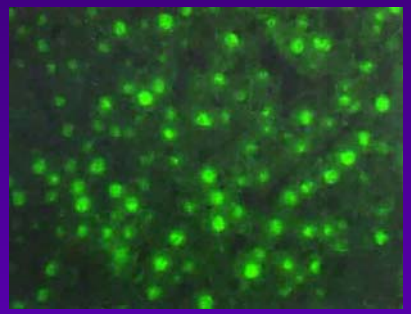


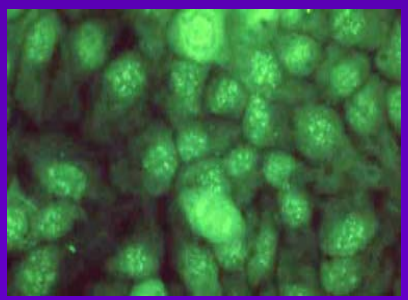


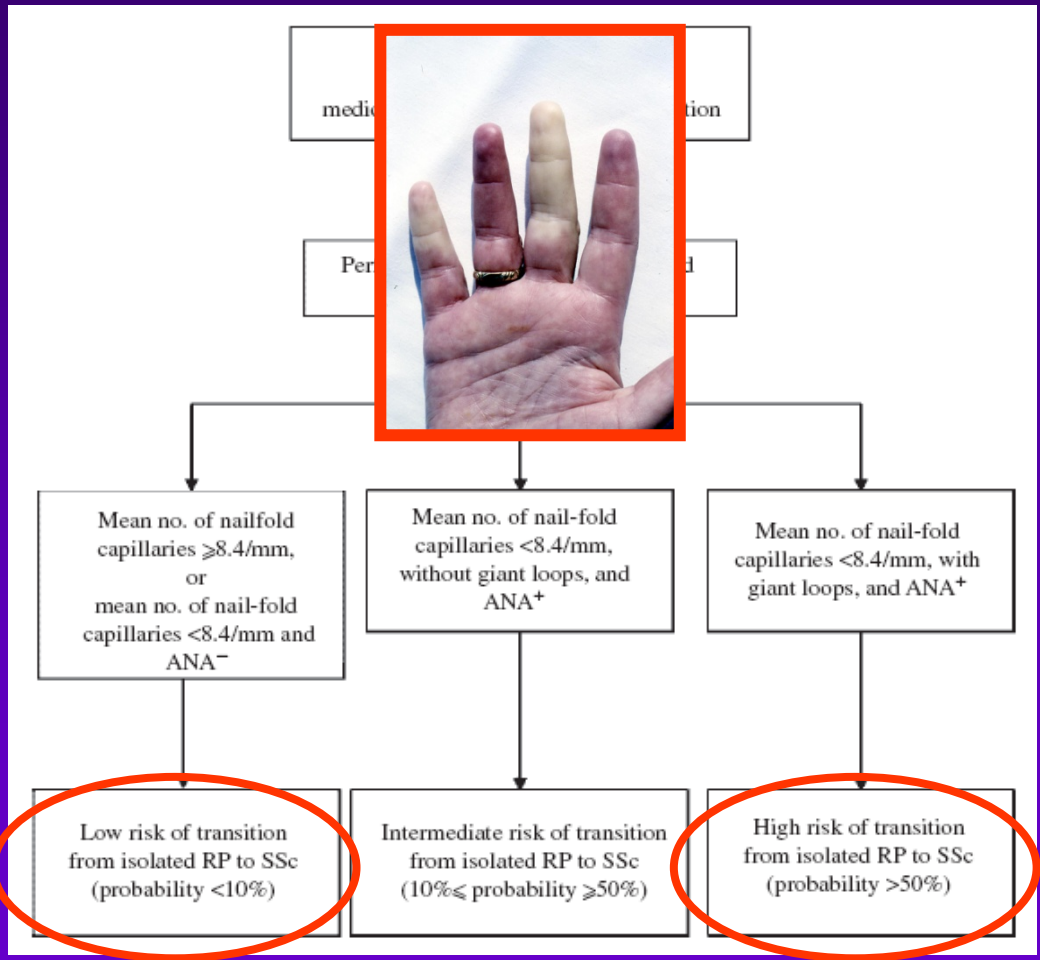
Conclusion. In RP evolving to definite SSc, microvascular damage is dynamic and sequential, while SSc-specific autoantibodies are associated with the course and type of capillary abnormalities. Abnormal findings on NCM at baseline together with an SSc-specific autoantibody indicate a very high probability of developing definite SSc, whereas their absence rules out this outcome.

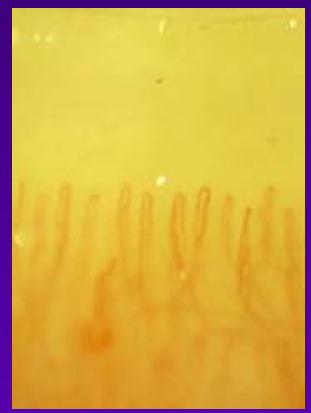
Improving outcome prediction of systemic sclerosis from isolated Raynaud's phenomenon: role of autoantibodies and nail-fold capillaroscopy

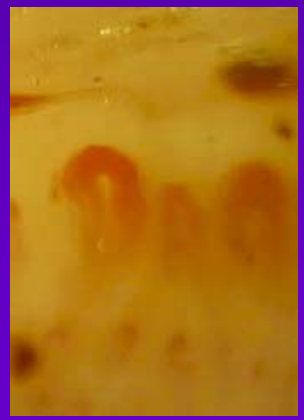
Ingegnoli F et al. *Rheumatology (Oxford) Jan 25, 2010*

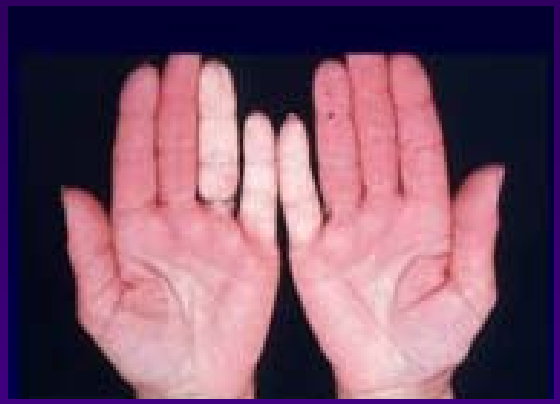


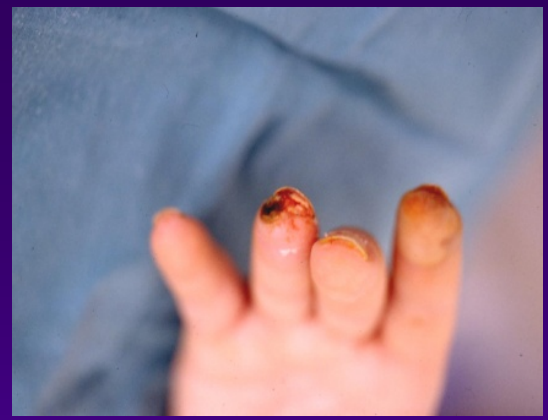






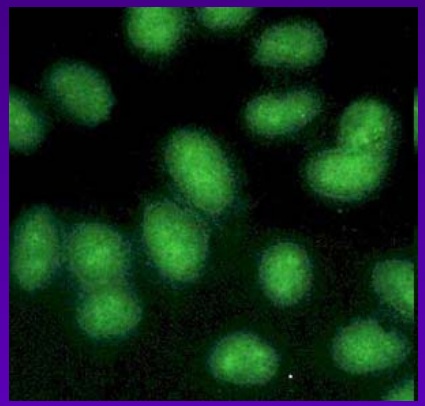


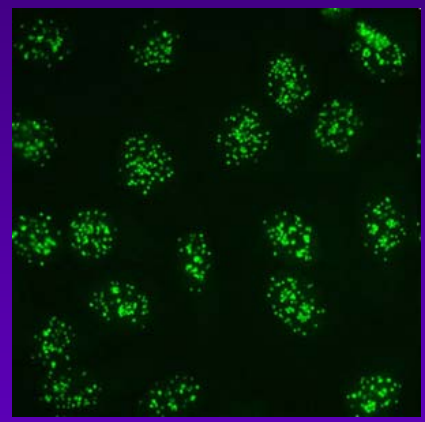


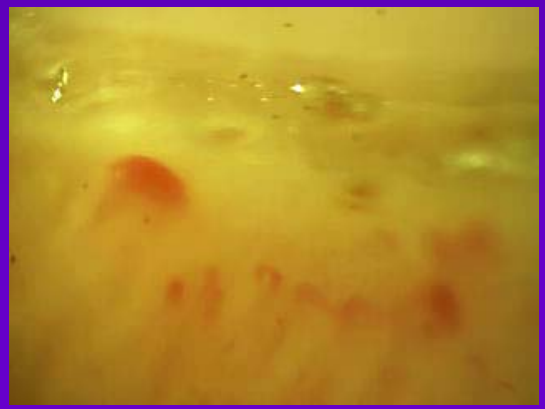


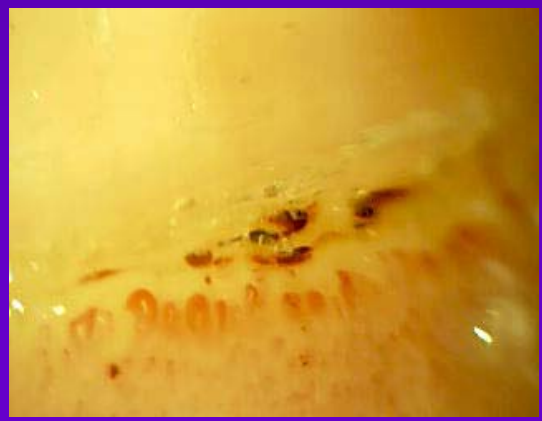
Pre-esclerodermia

Fenómeno de Raynaud
AANs (específicos)
Alter. Capilaroscópìcas
(Edema/úlceras digitales)

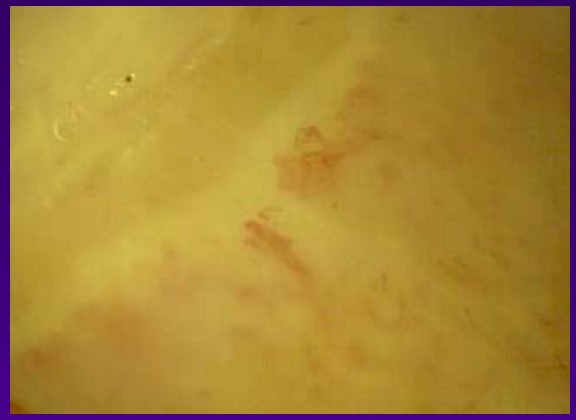




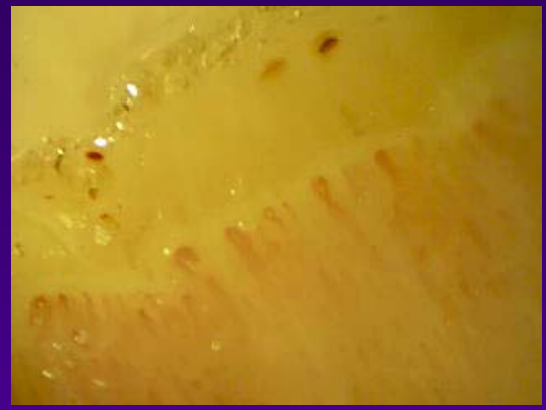




Capilaroscopia

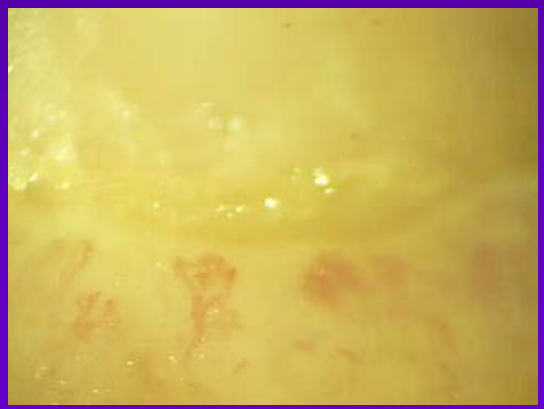


Vasculitis

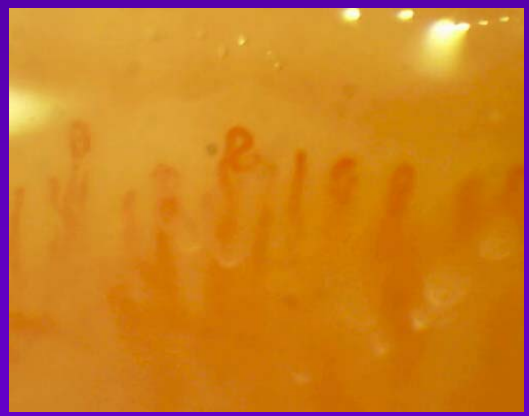


E.M.T.C

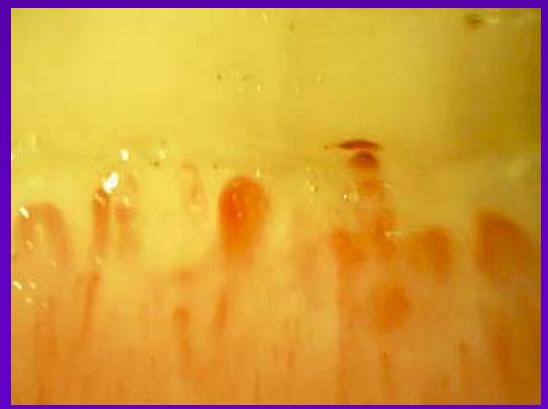
Conectivopatías



Sd. de Sjögren



L.E.S.



Dermatomiositis

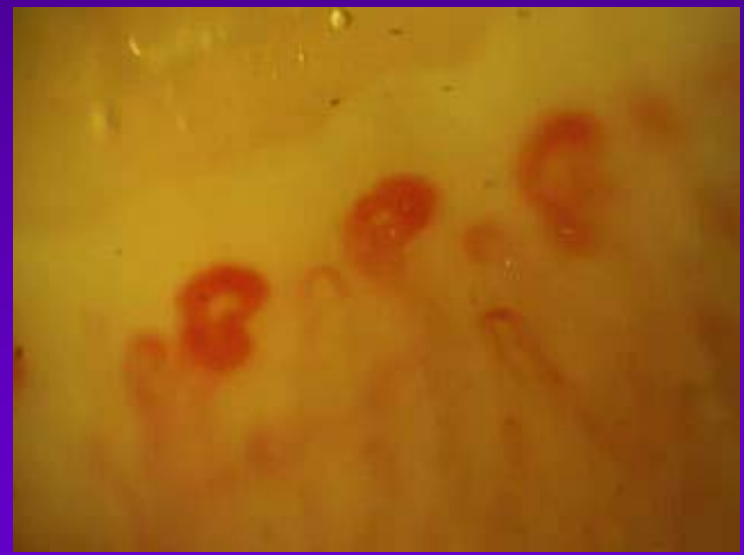
Morphologic capillary changes and manifestations of connective tissue diseases in patients with primary biliary cirrhosis

V Fonollosa[1]*, CP Simeón[1], L Castells[1], F Garcia[1], A Castro[1], R Solans[1], J Lima[1], V Vargas[1], J Guardia[1] and M Vilardell[1]
[1]Department of Internal Medicine, Hospital General Universitari Vall d'Hebron, Universitat Autònoma Barcelona, Barcelona, Spain

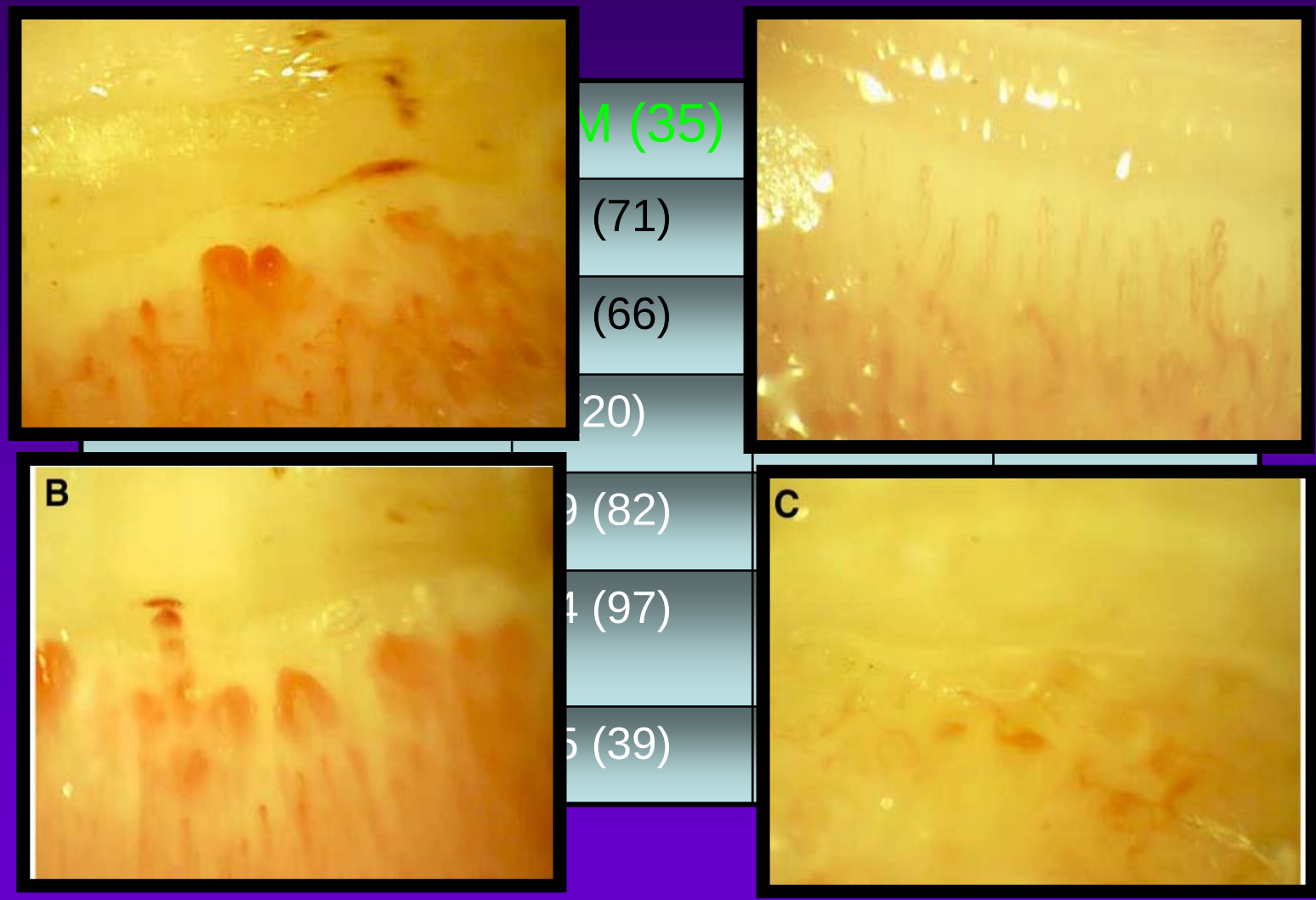
Lupus (2001) **10,** 628–631.

Table 1 Nailfold capillary findings in the PBC and control groups

	PBC group	*Control group*
Patients	22	15
Capillary loop dilatation	3	0
Haemorrhage	1	0
Tortuosities	8	2
Megacapillaries	8	0
Normal	2	13



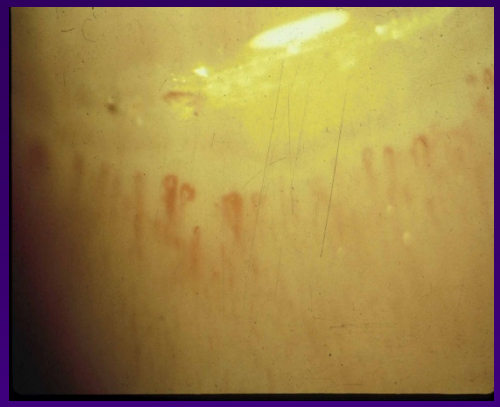
Nailfold Capillary Microscopy in Adults with Inflammatory Myopathy



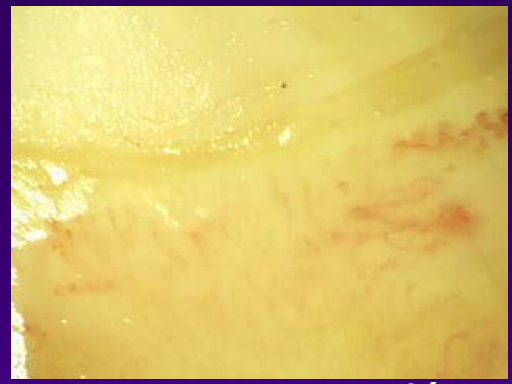
* P<0.05

Selva A, Fonollosa V, Trallero E et al.
Semin Arthritis Rheum 2010;39:398-404

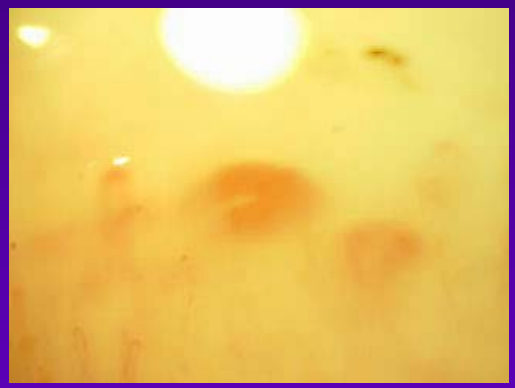
Capilaroscopia



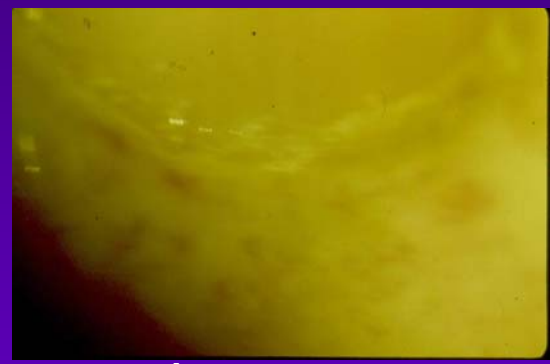
Dilataciones



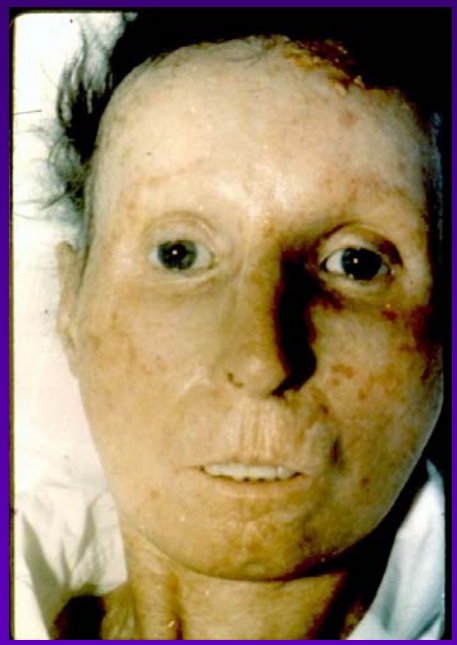
Desestructuración vascular



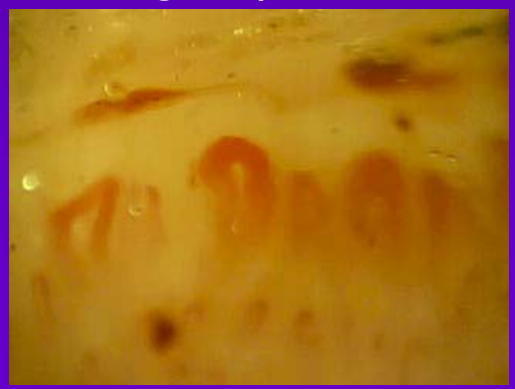
Megacapilares



Pérdida capilar



Esclerodermia



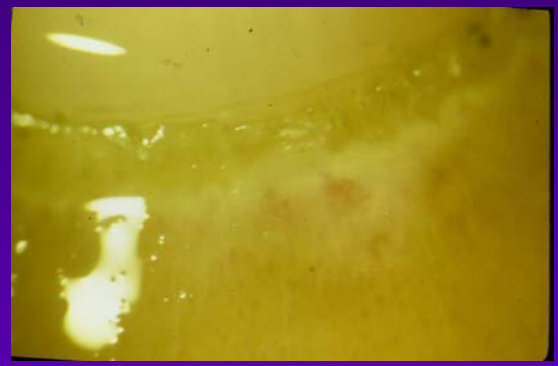
Megacapilares

Hemorragias

CAPILAROSCOPIA. Esclerodermia

Patrones capilaroscópicos*

Patrón activo
- pérdida capilar intensa
- desestructuración vascular
- dilataciones escasas



Patrón lento
- dilataciones-megacapilares
- pérdida discreta

*HR.Mariqc

CAPILAROSCOPIA. PATRONES: “Early” – “Active” – “Late”

Cutolo M et al. *J Rheumatol 2000;27:155-60*

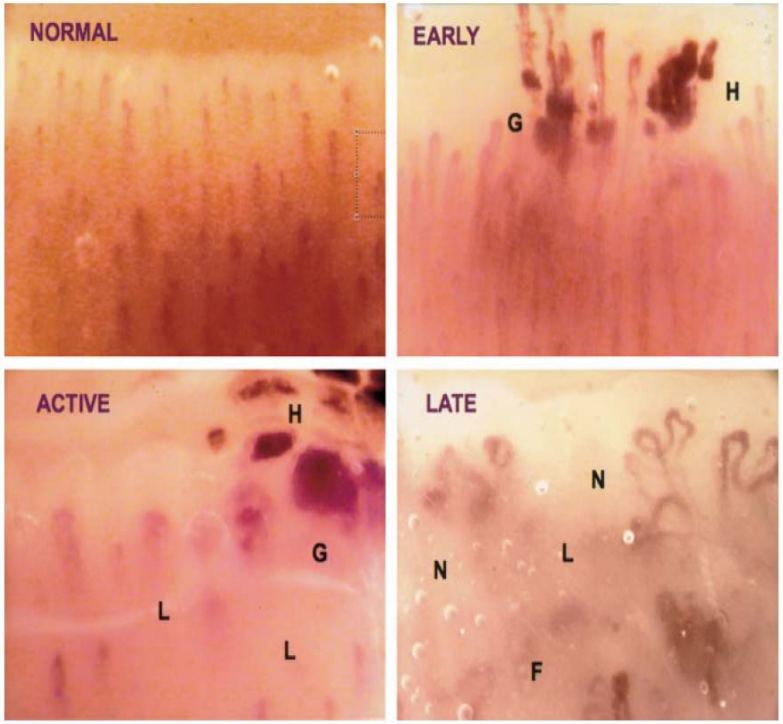


Figure 3. Normal capillary patterns (**top left**), and patterns seen in scleroderma. Early (**top right**): few giant capillaries (G), and microhemorrhages (H). Active (**bottom left**): increased number of giant capillaries and microhemorrhages, together with loss of capillaries (L). Late (**bottom right**): dramatic loss of capillaries, neoangiogenesis (N), and fibrosis (F).

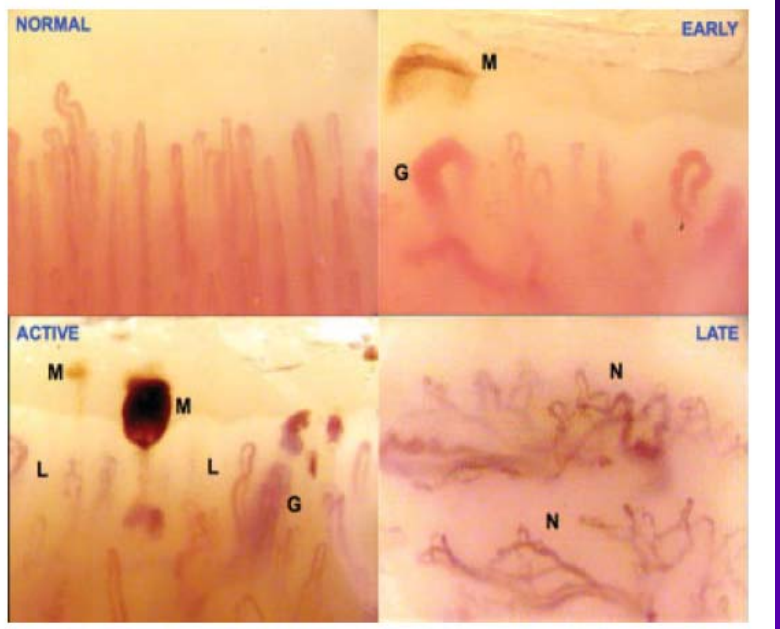


Figure 2. Specific microvascular changes that characterize the different nailfold videocapillaroscopic systemic sclerosis patterns. **Top left,** Normal capillary array. **Top right,** Early pattern. **Bottom left,** Active pattern. **Bottom right,** Late pattern. M = microhemorrhages; G = giant capillaries; L = loss of capillaries; N = neoangiogenesis (original magnification × 220).

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REVIEW

Clinical Implications From Capillaroscopic Analysis in Patients With Raynaud’s Phenomenon and Systemic Sclerosis

Ariane L. Herrick[1] and Maurizio Cutolo[2]

patterns. However, it must be recognized that these capillaroscopic patterns are descriptive, that there is inevitable overlap between patterns, and that further studies are indicated to examine changes in patterns over time.

CAPILAROSCOPIA. Esclerodermia

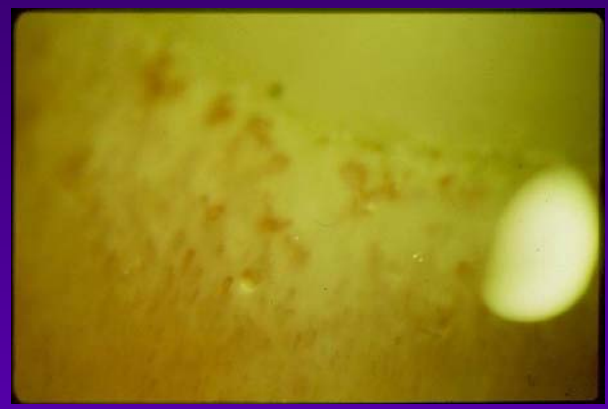
N: 331
Capilaroscopias: 279

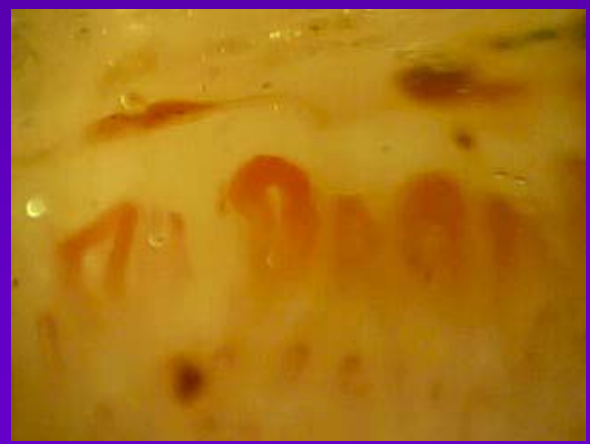
Patrón activo (41)

Difusa	22
Limitada	18

Patrón lento (213)

Limitada	132
Difusa	26





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Simeón CP, Fonollosa V, Vilardell M, *et al.* [Study of the capillary microscopy changes in scleroderma and their association with organ disease, clinical manifestations and disease progression]. *Med Clin (Barc)* 1991;97:561–4.

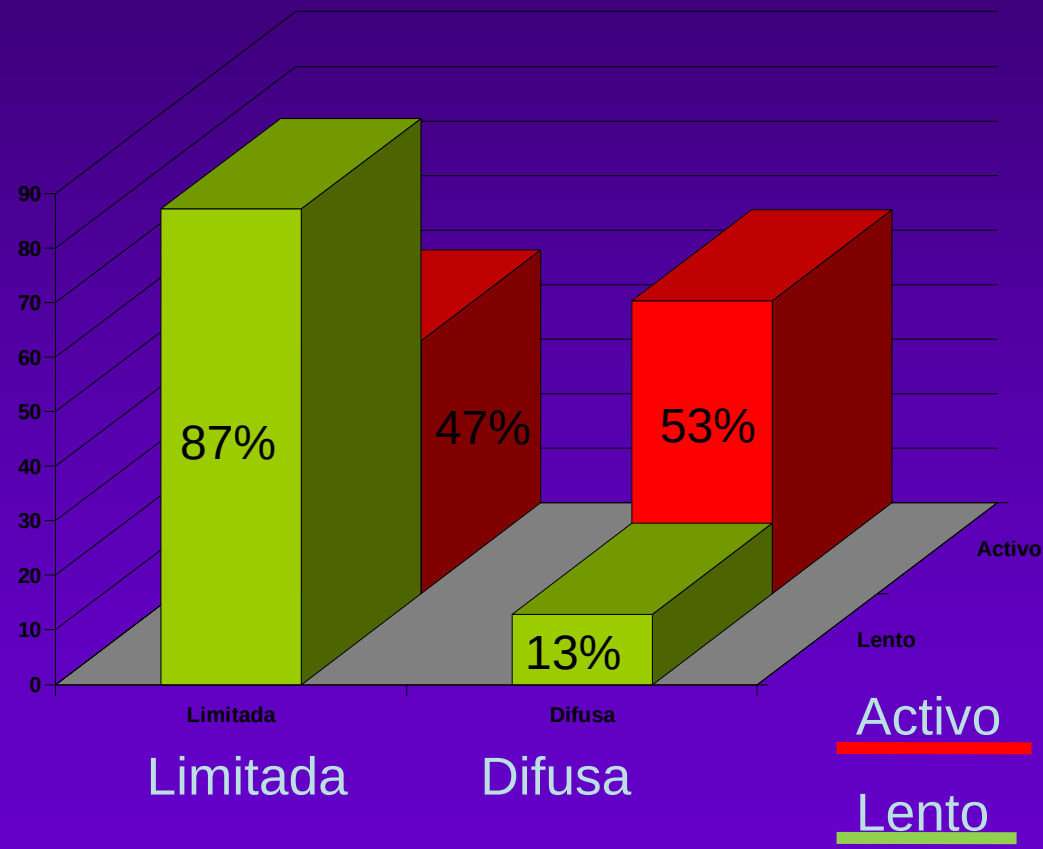
CAPILAROSCOPIA. Esclerodermia

PATRÓN ACTIVO

Forma difusa
Crisis renal esclerodérmica
Úlceras digitales
Anti-topoisomerasa I
Peor pronóstico
Criterios de la ARA

PATRÓN LENTO

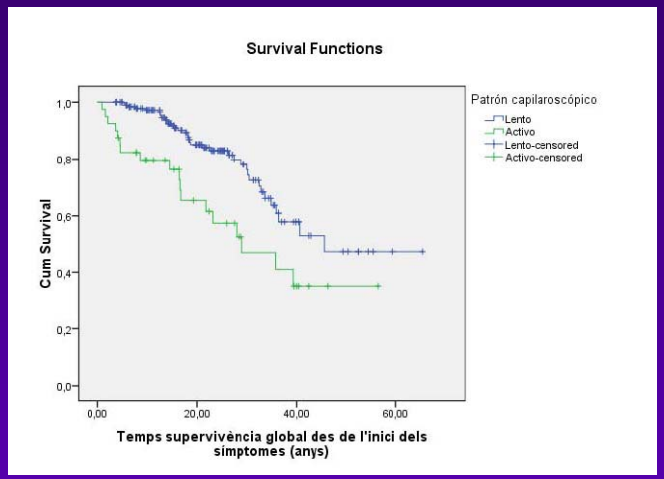
Forma limitada
Anticentrómero



Hospital Vall d'Hebron. Barcelona

Capilaroscopia y Esclerodermia

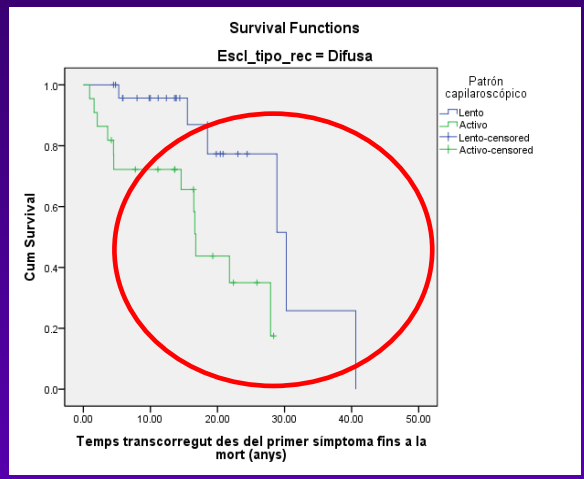
N: 319 pacientes- N: 235 capilaroscopias



SERIE GLOBAL

P= 0,02

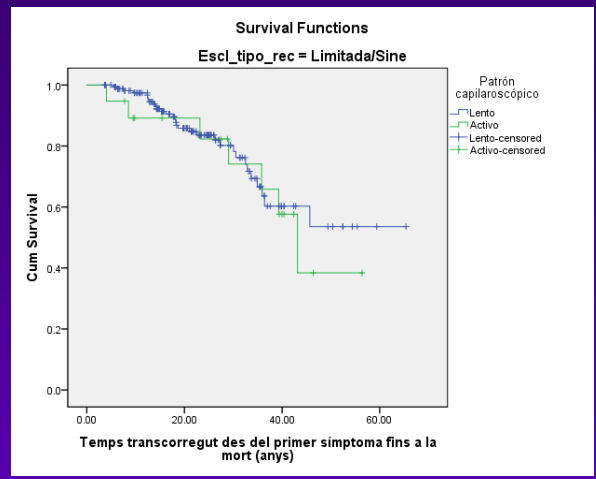
Global	P.Activo	P Lento
5 años	82,8%	99,5%
15 años	76,9%	92,5%
25 años	58,8%	83%



SUBTIPO DIFUSA

P=0,005

DIFUSA	Activo	Lento
5 años	72,2%	95,7%
15 años	65,6%	95,7%
25 años	35%	77,3%



SUBTIPO LIMITADA/SINE

LIMIT/SINE	Activo	Lento
5 años	94,7%	99,4%
15 años	89,2%	92,2%
25 años	82,3%	83,6%

ESCLERODERMIA. Clasificación en subtipos

Pre-esclerodermia

Fenómeno de Raynaud
Sin afección cutánea
Úlceras digitales
Alts. capilaroscópicas
AAN específicos

Forma difusa

F. de Raynaud <1a.
Afección troncal y acra
Roces tendinosos
Afección visceral temprana
Pérdida capilar
Anti-Scl 70 (25-30%)

Forma limitada

F. de Raynaud>5a.
Afección cutánea distal
Telangiectasias, calcinosis
afección digestiva. HTAP
Dilatación capilar
AAcentrómero (59-80%)

ESC *sine* esclerodermia

F. de Raynaud +/-
Sin afección cutánea
Afección visceral
AAN específicos

CAPILAROSCOPIA. Aplicación clínica

Fenómeno de Raynaud 1º-2º

Esclerodermia:

- ESC. Inicial
- Criterios de clasificación
- Pronóstico

Dermatomiositis

EMTC