Diabetic retinopathy: non invasive visualization of microaneurysms

M. Paques

Clinical Investigation Center 503, INSERM,
Quinze-Vingts National Eye Hospital, Paris, France

Conventional angiography examination

Diabetic retinopathy .

Conventional fluorescein angiography shows multiple micro-aneurysms.

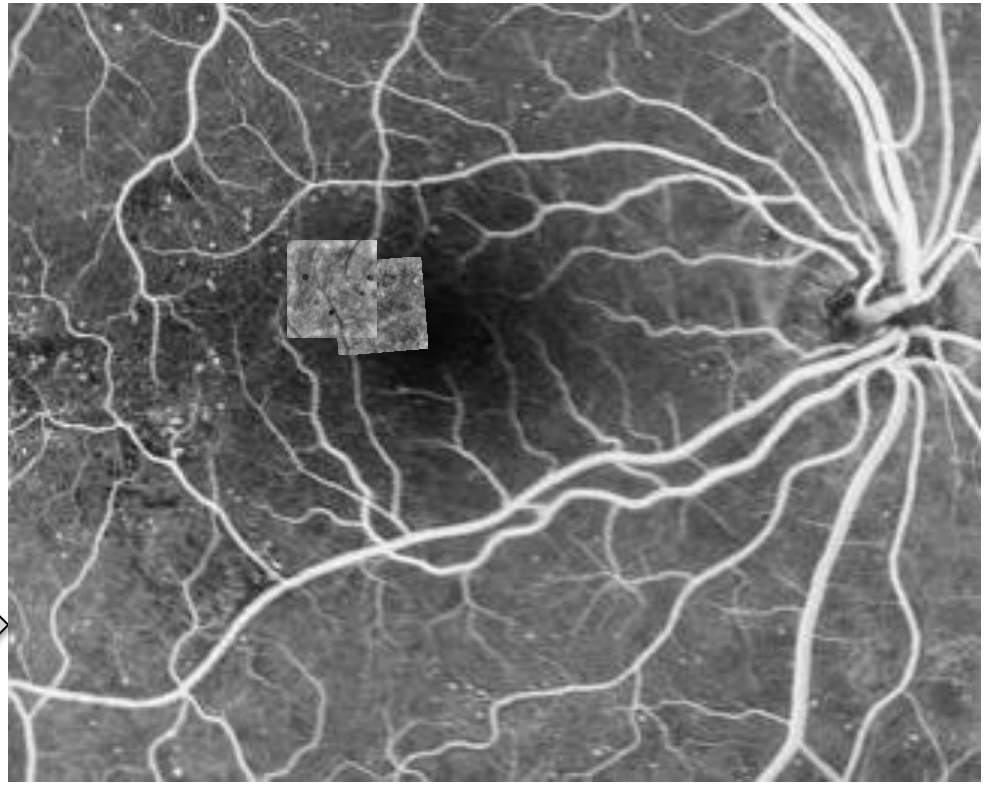
Fluorescein angiography

Adaptive optics examination

Diabetic retinopathy.

Adaptive optics detects the same micro-aneurysms, without the need for injecting fluorescein.

Fluorescein angiography and AO (rtx1)

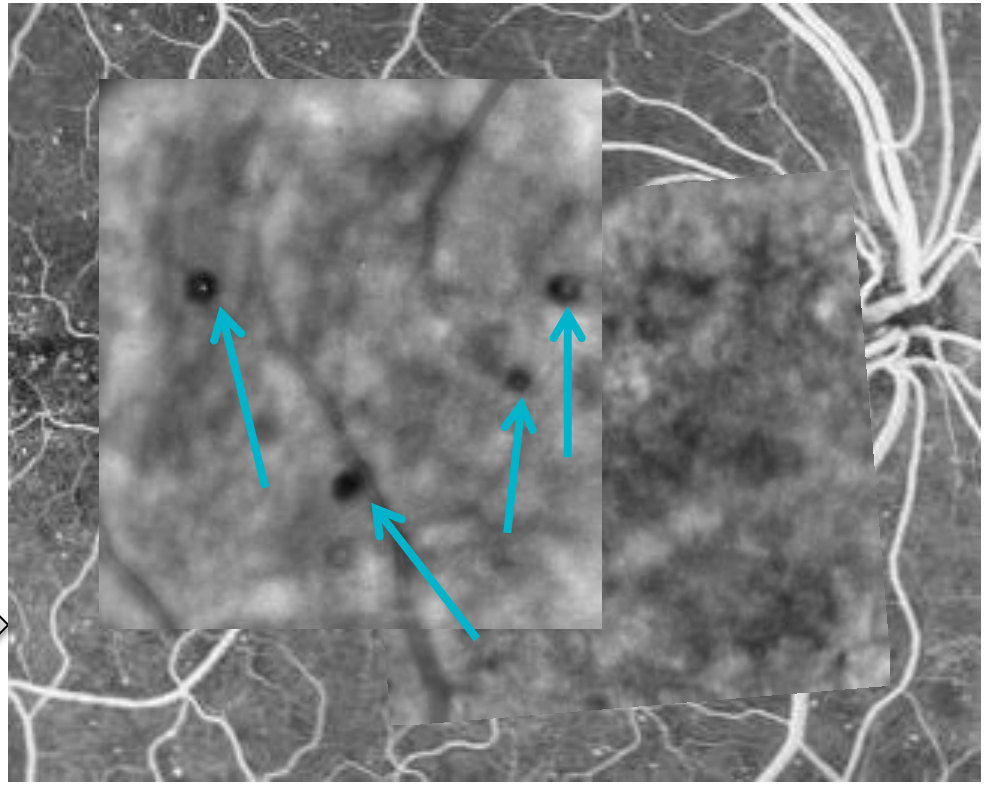


Adaptive optics examination

Diabetic retinopathy.

Adaptive optics detects the same micro-aneurysms, without the need for injecting fluorescein.

Adaptive optics zoom



Microaneurysms. Central hyper-reflectivity indicates a spherical shape.

Conclusion

- Adaptive optics imaging enables visualization of microscopic aneurysms in diabetic retinopathy.
- Unlike fluorescein angiography, the rtx1 examination is **non invasive** as it does not require injection of a fluorescent agent.

- See also:

- M. Lombardo, M. Parravano, S. Serrao, P. Ducoli, M. Stirpe, and G. Lombardo, "Analysis of retinal capillaries in patients with type 1 diabetes and nonproliferative diabetic retinopathy using adaptive optics imaging." Retina, vol. 33, no. 8, pp. 1630-1639, Sep.2013.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