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SSOCT and SSOCT-Angiography for the analysis of circumscribed choroidal hemangiomas

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Purpose: The longer wavelength of swept source OCT (SSOCT), enables better penetration of retinal pigment epithelium and analysis of choroidal tumors. We present here the contribution of SSOCT and SSOCT-angiography (SSOCT-A) to the diagnosis of circumscribed choroidal hemangiomas (CH).

Methods: Seven CH have been analysed with multimodal imaging: color fundus photography, ultrasonography (US), fluorescein (FA) and indocyanine green angiography (ICGA), and SSOCT and SSOCT-A (DRI SS-OCT Triton, Topcon).

Results: On SSOCT, all 7 CH presented the characteristic signs of CH with an acutely smooth dome-shaped tumor with thick and large sponge like choroidal vessels and partial posterior shadowing associated with subretinal fluid in 3 eyes. On SS-OCTA all cases presented a hypersignal of dilated choroidal tumoral vessels with loops, interspaced by dark areas and surrounded by a hypersignal rim. In 4 cases large abnormal tumoral vessels were observed both at the choriocapillary and choroid level, associated with choriocapillaris alterations on SSOCT and presented an ICGA late phase wash out. In 3 cases, much thinner tumoral vessels were observed on SSOCT-A below a normal choriocapillaris on SSOCT and SSOCT-A, with no late phase ICGA wash out.

Discussion & Conclusion: SSOCT and SSOCT-A enabled us to distinguish 2 types of CH: one associated with large superficial tumoral vessels could correspond to cavernous hemangiomas and one with thinner tumoral vessels below the choriocapillaris which could correspond to mixed or capillary hemangiomas. Therefore, SSOCT and SSOCT-A contributes to the diagnosis of CH and provides new insight for CH vascular pattern analysis.

Biography

Catherine Favard is a French Retina Specialist who has completed an MS degree in Neuroscience at Pitie Salpetriere, working on immunolabeling of retinal cells. She has studied VEGF activity in the eye, working with Pr J Plouet and Professor F Malecaze. She has performed a Post doc fellowship in Boston at the Schepens Eye Institute and at Harvard University with Pr Aiello. Her main interests are diabetic retinopathy, AMD, uveitis and choroidal tumors. She is currently working at Centre Ophthalmologique de l'Odeon and in Pr Brezin Department at Cochin hospital where she is involved in clinical trials and publications.

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