



Comment on “Drusen and pachydrusen: the definition, pathogenesis, and clinical significance”

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To the Editor:

We congratulate Zhang et al. on their review article highlighting the key morphological features of drusen and pachydrusen and providing an insight into the pathogenesis and clinical significance of these unique entities [1].

We would like to make three points. First, choroidal imaging beneath the pachydrusen has shown the presence of increased Haller’s layer thickness with an attenuated choriocapillaris layer [2]. This is suggestive that the underlying choroidal morphology directly affects the overlying retinal pigment epithelium (RPE), which may in due course of time lead to collection and deposition of debris, thus triggering the formation of pachydrusen. Similar changes with resultant RPE-Bruch’s membrane complex dysfunction triggering geographic atrophy (GA) and choroidal neovascular membrane (CNVM) have been well-established in AMD [3]. Likewise, in pachychoroidopathy, the loci of pachydrusen can trigger the development of central serous chorioretinopathy (CSCR) leak or even neovascularization (pachychoroid neovascularopathy [PNV] or polypoidal choroidal vasculopathy [PCV]) [4].

Second, in AMD, the macular location of CNVM/GA in late AMD corresponds to the complementary location of drusen in early and intermediate AMD. Akin to this, the seat of disease activity in the pachychoroid disease spectrum, be it the CSCR leak or CNVM (PCV/PNV), can be present at any site throughout the posterior pole [1], which is analogous to the distribution pattern of pachydrusen. This provides further credence to the fact the pachydrusen is a risk factor for disease progression in pachychoroidopathy.

Third, in intermediate non-exudative AMD, vascularization of drusen has been demonstrated on optical coherence

angiography tomography (OCTA) [5]. In a similar vein, the presence of an underlying quiescent network on OCTA in association with pachydrusen may not be completely inadmissible. Therefore, we would encourage retinal physicians to perform multimodal imaging, including an OCTA, in eyes with pachydrusen for early detection of dormant disease. Studies evaluating the histopathological aspects of pachydrusen and their correlation with the multimodal imaging findings and progression of pachychoroid disease spectrum could help fill the lacunae related to their etiopathogenesis and explore pachydrusen as a promising target for therapeutic intervention to prevent conversion to CNVM in the pachychoroid disease spectrum.

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Compliance with ethical standards

Conflict of interest The author declares no competing interests.

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