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CORRESPONDENCE

Response to 'Comment on 'Drusen and pachydrusen: the definition, pathogenesis and clinical significance''

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To the Editor:

We are grateful to Dr Sheth for his interest on this review article and his postulations.

A deeper understanding of how the choroid is involved within the pachychoroid spectrum disorders (PCD) is essential. The choroidal thickening associated with pachydrusen can be diffused or localized under pachydrusen [1]. The retinal pigment epithelium (RPE) is thought to be the primary contributor of the dysfunction of Bruch membrane-RPE-choroid complex and drusen is an early sign of age-related macular degeneration [2]. However, the origin and the initial pathological changes of pachychoroid spectrum disorders is dissimilar. Impairments of choroidal microvasculature and dysregulated choroidal blood flow have been interpreted as the initiator of PCD [3]. The difference of the initiating pathological factor can also explain the difference of the phenotype and genotype of soft drusen and pachydrusen [4]. However, as we indicated in the review, there is comparatively very scanty literature on histopathology of pachydrusen compared to drusen, especially a lack of animal models to systematically investigate the pathological process. More clinical and underlying histopathological evidence are warranted. Moreover, central serous choroidal retinopathy (CSC) or polypoidal choroidal vasculopathy (PCV) do not always co-exist with pachydrusen. The correlation of the distribution of pachydrusen and the leakage on fluorescent angiography of CSC, location of PCV lesions and choroidal neovascularization (CNV) is even weaker. More epigenetics and genetic studies are required to validate the hypothesis that PCV is a gene-mediated disorder, although some genes such as *ARMS2* A69S and *CFH* [4] have been found to be linked to it. Further clinical, molecular and pathological studies are required to understand whether pachydrusen and PCD have a common signalling pathway in the pathological process.

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Compliance with ethical standards

Conflict of interest The authors declare no competing interests.

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