The study of staphylomas in pathologic myopia with SS-OCT: a new classification.

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Eyes with high axial length (AL) may show an ectasia of the posterior pole called staphiloma. Myopic staphilomas are defined as evaginations of the posterior wall of the eye with a curvature radius that is smaller than the curvature of the ocular structure surrounding it. Von Graefe studied staphilomas after the examination of highly myopic fundus, with a thinning of the retina and the choroid, in 1854. This increase in AL together with tissue thinning is responsible for the appearance of myopic maculopathy and its different manifestations. Curtin published a staphiloma classification based on ophthalmoscopy findings and location into five simple and five complex types.

Using OCT, and especially its single-line 12 mm scanning mode we are able to analyse in detail and study curvature modifications that staphilomas induce to the posterior pole of the eye, helping us classify them. This is especially useful in complex staphilomas, where OCT indicates us the different curvature radiuses.

Horizontal scans show a progressive and regular augmentation of concavities as the staphiloma increases, from minimal to deep concavities that even include the optic nerve. If the optic nerve stays out of the concavity. In some cases the optic nerve lays at the bottom of the concavity. In some others a convexity or sinusoidal profiles (ascending or descending) can be seen. The majority of vertical scans are concave and regular with the exception of dome-shaped maculas.