Pictorial CME

Anomaly In Development and Regression of Hyaloid Artery - The Bergmeister's Papillae

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Abstract *In this article we discuss about one of the commonest developmental anomaly of the hyaloid system known as the Bergmeister's papillae. It was first described by an Austrian ophthalmologist O. Bergmeister. It is a sign of persistent fetal vasculature which is seen projecting from the disc. It is frequently observed as an incidental finding. Literature suggests certain rare scenarios where it leads to strong vitreoretinal adhesions leading to complications like retinal detachment and vitreous hemorrhage. Considering this presentation we have stressed the need for optical coherence tomography evaluation for careful monitoring of the patient.*

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Full Text

Bergmeister's papillae are the commonest congenital anomaly of the hyaloid system. As a part of the normal development, the embryogenic hyaloid artery appears at the third week of gestation and reaches the lens by the fourth or the fifth week of gestation, to form tunica vasculosa lentis, which undergoes complete atrophy and disappears at birth.[1,2]

Due to some reasons unknown, there may occur a temporary arrest of this process, resulting in the persistence of the vascular system in parts and in different forms depending upon the time of action.[3] The Anterior anatomical remnant of the avascular hyaloid system may occur and manifest clinically as Mittendorf's dot (remnants that remain at the back of the lens) or the posterior anatomical remnant of the avascular hyaloid system may occur and manifest clinically as Bergmeister's papillae (remnants that persist at the optic disc).[4] It is characterized by raised glial tissue on the optic disc surface (Figure 1).

Normal visual acuity, absence of inflammatory signs, the stationary character of the glial tissue, and the presence of persistent pupillary membrane will help to clinch the diagnosis. In most severe cases it can be associated with pigmentary changes, amblyopia, posterior polar cataract, microphthalmia, the persistence of the primitive vitreous and vitreomacular traction. Careful monitoring is needed pertaining to eventual vitreous thickening on the peripapillary area which might lead to vitreo-retinal adhesion leading on to secondary complications like vitreomacular traction, tractional retinal detachment and vitreous hemorrhages.[5,6] Optical coherence tomography (OCT) evaluation of Bergmeister's papillae will throw light on the need for careful monitoring and intervention if required. In conditions where there is no traction further monitoring won't be necessary (Figure 2a), whereas cases with vitreoretinal adhesion and traction will need careful monitoring (Figure 2b).

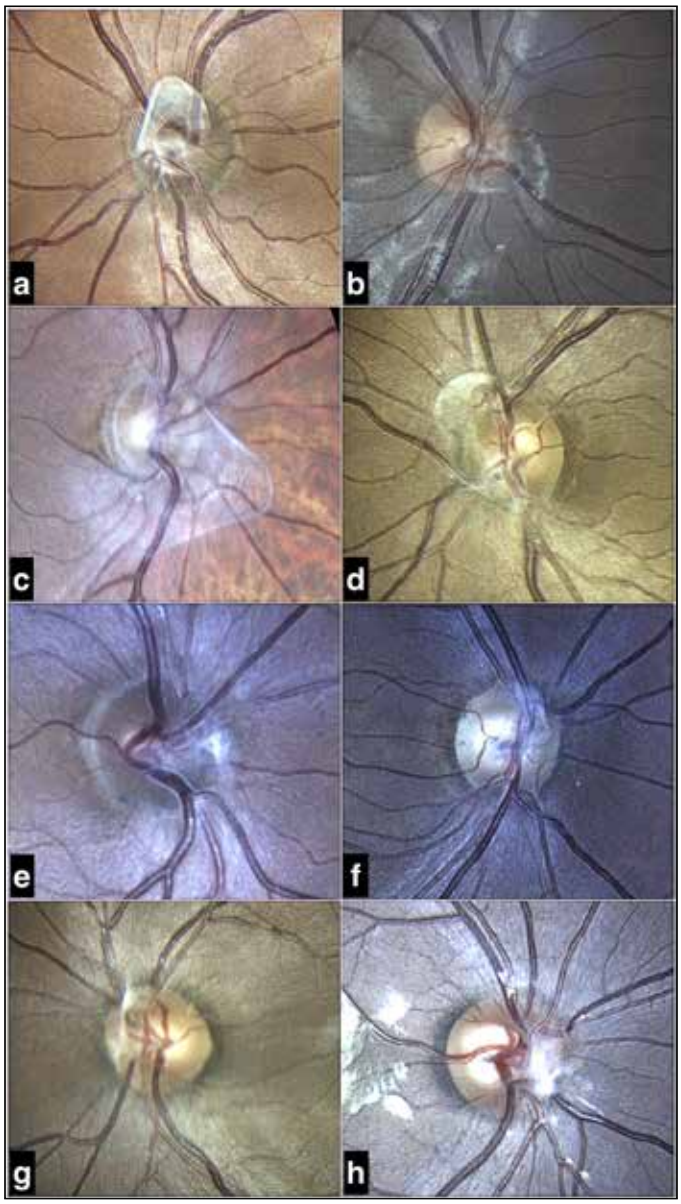

Figure 1: *(a-h) Clinical presentations of Bergmeister's papillae.*

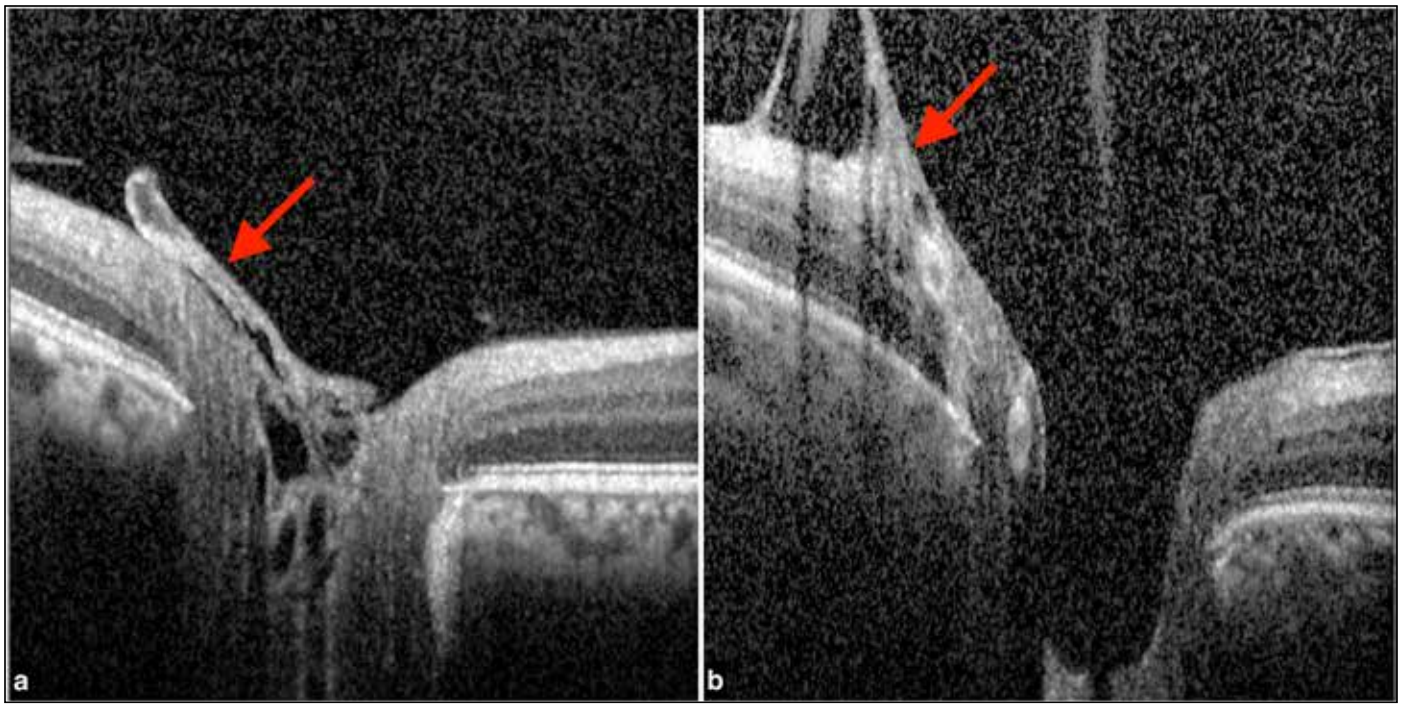

Figure 2: *(a) Optical coherence tomography (OCT) of Bergmeister's papillae showing hyper-reflective tissue overlying the optic nerve head with no evidence of traction (red arrow).*
(b) OCT of Bergmeister's papillae showing hyper-reflective elevated tissue attached to the optic nerve head causing traction (red arrow) due to vitreoretinal adhesion at the peripapillary region.

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