Case Report

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A Case of Congenital Prepapillary Vascular Loop: A Rare Anomaly

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Abstract

Congenital vascular anomalies are a rare occurrence and most of time an accidental finding in a patient coming for fundus examination. Prepapillary vascular loop is a type of congenital vascular anomaly. Though most of cases are asymptomatic, regular follow up is of paramount importance for timely diagnosis of complications if any.

Keywords: Congenital anomaly, Prepapillary Vascular Loop.

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Introduction

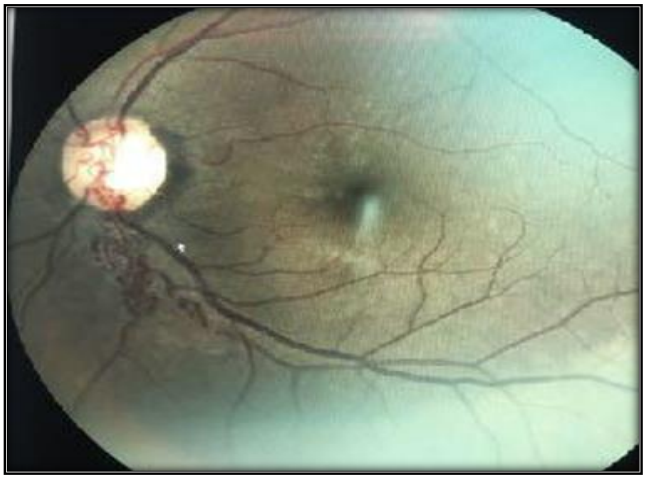
Pre papillary vascular loop is a type of congenital vascular abnormality. Congenital retinal vascular anomalies include anomalous macular macro vessel, arterial–arterial or venous–venous crossing, triple branching, congenital tortuosity and pre- papillary vascular loop (PVL).[1,2] This is rare anomaly first described in1871 by Leibrich.[3]. The incidence of pre papillary vascular loop has ranged from 1 in 2100 to 1 in
9000 in the Western literature.[4] So far it has been divided into arterial (more than
90%) or venous (less than 10 %).[5]

Case Report

A 55 yrs male patient with a history of hypertension and hyperlipidemia was referred to routine OPD for fundus evaluation of hypertensive retinopathy. He was asymptomatic with a visual acuity of 6/6 in both the eyes. The anterior segment was unremarkable in each eye. Fundus examination in the left eye revealed a pre papillary vascular loop without any abnormalities in the macula or peripheral retina. Fundus examination of right eye was normal.

Discussion

There are several known theories for the loop formation: retinal vascular tortuosity spectrum (probably from elastin deficiency.[6] or variant of arterial tortuosity syndrome).[7] deficient internal elastic lamina.[3,8] genetic predisposition (autosomal dominant inheritance).[9,10] vitreous traction on disc leading to loop formation early in life during embryogenesis and pure embryologic focal vascular defect. Before the fourth month of gestation, the retina is avascular with nutrients supplied by the hyaloid vasculature. At the fourth month (100-mm embryonic stage), the primitive vascular mesenchymal cells adjacent to the hyaloid artery start invading the retinal nerve fibre layer forming the primitive retinal arterial system with concomitant gradual regression of the hyaloid artery. In rare cases, instead of penetrating the nerve fibre layer, the developing vessel grows towards the vitreous within the Cloquet canal for a few millimeters and then turns back to the disc to form Pre papillary vascular loop. A majority of cases (90%) are arterial origin. They can have mainly three shapes: corkscrew, figure of eight or the extremely rare hairpin turn. Pre papillary vascular loops have some association vitreous haemorrhage.[11] retinal arterial occlusion.[12] pre retinal haemorrhage.[13] and sub retinal haemorrhage.[14] Rare incidence of branch retinal artery occlusion is also present. Thus, in asymptomatic cases, constant follow-up and observation is recommended.



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