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SHORT COMMUNICATION

Vascular shunt of the optic disc resembling neovascularization in a diabetic patient with optic disc drusen

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PURPOSE. *To report an insulin-dependent diabetic patient who was referred by the diabetic screening clinic as having proliferative diabetic retinopathy and was found to have bilateral optic disc drusen with optociliary shunt resembling neovascularization on the disc.*
METHODS. *Complete ocular evaluation including a fluorescein angiography was performed.*
RESULTS. *Fundus examination showed signs of mild nonproliferative diabetic retinopathy in the right eye and the presence of well-defined optic disc drusen in both eyes with a peculiar vascular abnormality resembling neovascularization on the right disc. The central retinal vein pulsation was normal on digital examination. Autofluorescence confirmed the presence of the optic disc drusen in both eyes. Fluorescein angiography showed no leakage from the optociliary shunt. The vascular abnormality has remained stable for 2 years.*
CONCLUSIONS. *This case highlights the correlation of optic disc drusen and optociliary shunts which in diabetic patients can be misdiagnosed as neovascularization. (Eur J Ophthalmol 2006; 16: 764-6)*

KEY WORDS. *Diabetic retinopathy, Optic disc drusen, Vascular shunt*

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INTRODUCTION

Drusen of the optic disc may be associated with other ocular conditions including retinitis pigmentosa and angioid streaks and may be complicated by juxtapapillary choroidal neovascularization and vascular occlusions. We report a diabetic patient who was referred by the diabetic screening clinic with the provisional diagnosis of proliferative diabetic retinopathy and was found to have bilateral optic disc drusen with optociliary shunt resembling neovascularization on the disc.

Case report

A 54-year-old man with insulin-dependent diabetes mellitus for 6 years was referred by the diabetic screening clinic with suspected proliferative diabetic retinopathy. Ocular evaluation revealed visual acuities of 6/9 and unremarkable anterior segments in both eyes. Fundus examination showed signs of mild nonproliferative diabetic retinopathy in the right eye and the presence of well-defined optic disc drusen in both eyes with a peculiar vascular abnormality resembling neovascularization on the right disc (Fig. 1, A–D). The central retinal vein pulsation was normal on digital examination. The red-free and the preinjection photographs of fluorescein angiography confirmed the presence of the optic disc drusen in both eyes (Fig. 2, A–D). Fluorescein angiography showed no leakage from the optociliary shunt (Fig. 3, A–D). The vascular abnormality has remained stable for 2 years.

DISCUSSION

Optic disc drusen are composed of hyaline-like calcific material within the substance of the optic nerve head. Drusen are bilateral in 75% of patients (1).

Superficial drusen are easily identified by ophthalmoscopy as glowing yellow bodies. However, diagnostic

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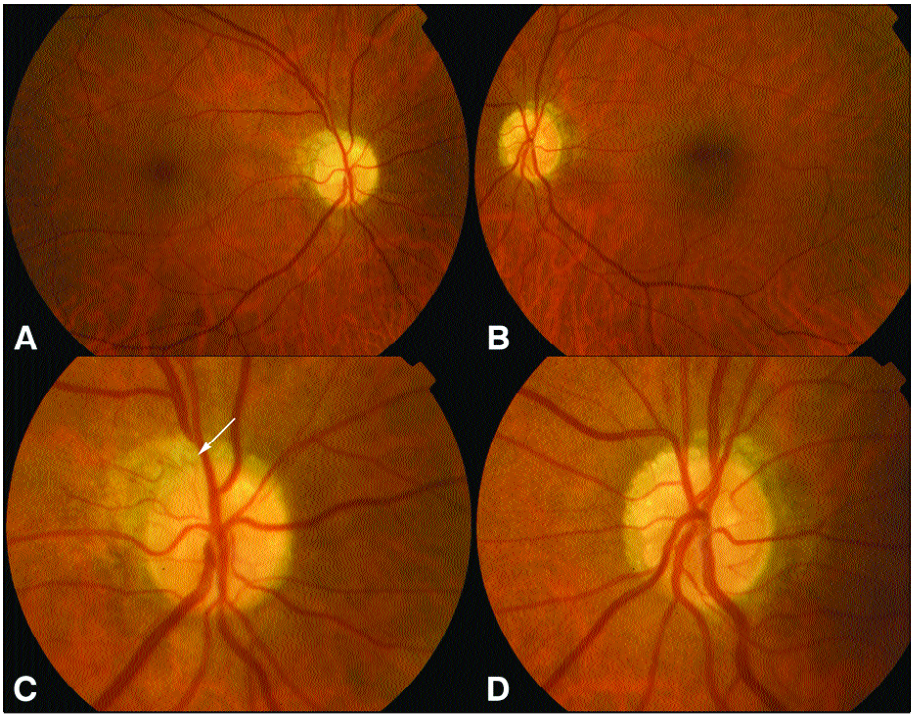

Fig. 1 - (**A**, **B**) *Colour fundus photographs of right and left eye showing mild nonproliferative diabetic retinopathy changes and a vascular shunt on the right optic disc.* (**C**, **D**) *Colour fundus photographs of optic discs of right eye and left eye showing marked optic disc drusen in both eyes and the vascular shunt on the disc of the right one (white arrow).*

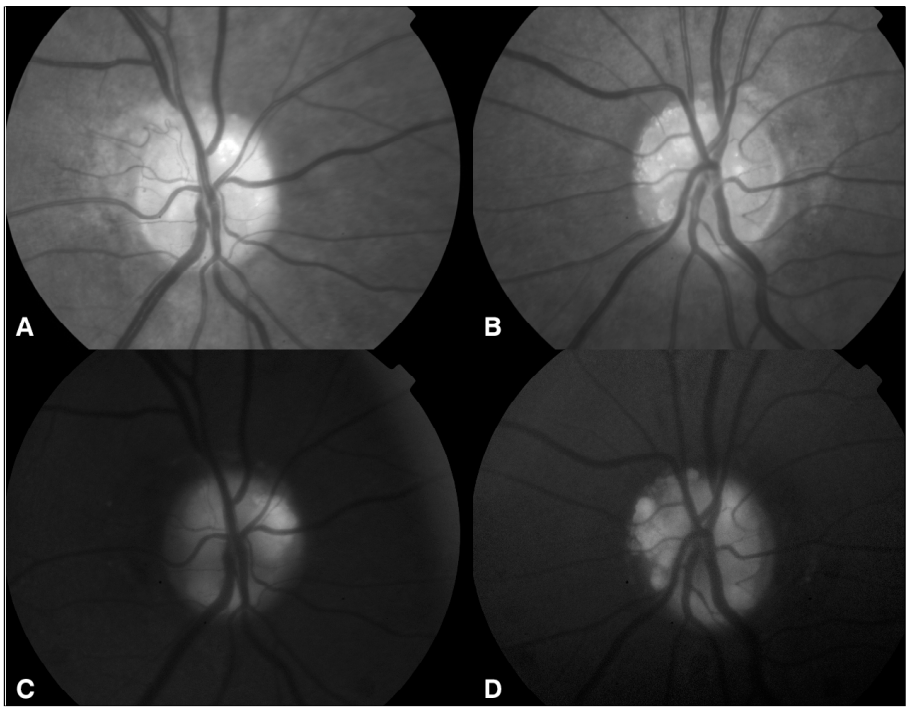

Fig. 2 - (**A**, **B**) *Red-free fundus pictures of both eyes showing marked optic disc drusen in both eyes and the vascular shunt on the right one* (**C**, **D**). *Preinjection fundus pictures of both eyes showing autofluorescence due to optic disc drusen.*

difficulties may be encountered when drusen are buried deep within the nerve tissue in the optic nerve head, difficult to differentiate from true optic disc swelling based on the ophthalmoscopic appearance alone (1, 2). B-scan echography is the most reliable tool in detecting buried drusen while preinjection control photography confirms the diagnosis of visible drusen (3).

Associations include juxtapapillary choroidal neovascularization, vascular occlusions, and even slowly progressive optic neuropathy. The latter is characterized by accumulation of acellular laminated concretions in the prelaminar portion of the optic nerve. Papillary hemor-

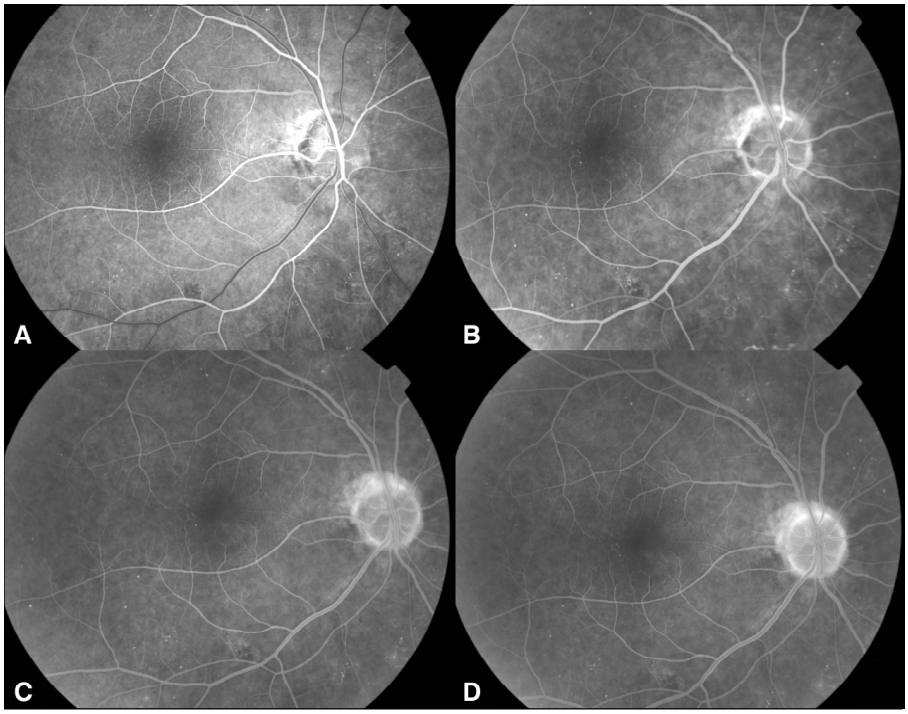

Fig. 3 - (**A**-**D**) *Phases of fluorescein angiography of the right eye showing no signs of ischemia and no leakage from the vascular shunt.*

rhages and vascular shunts have been reported with optic disc drusen (4). According to this study the latter were present in 6.9% of cases, most frequently in patients with exposed drusen and mostly involving venous vessels (4).

In contrast to congenital looped/coiled peripapillary retinal vessels, which are nonprogressive, usually benign lesions and mostly involving arterial vessels (5), vascular anomalies related with disc drusen, even though nonprogressive and benign in nature, may be associated with a more advanced stage of optic neuropathy in such eyes (4).

Optic disc drusen in association with neovascularization of optic disc was reported recently with no obvious underlying cause (6).

Our patient was referred following routine screening with the provisional diagnosis of proliferative diabetic retinopathy. Optociliary shunts may resemble neovascularization on the disc. Neovascularization usually occurs as a response to ischaemia and the production of vasoproliferative factors. However the appearance of the retina was not that of ischemia and the fluorescein angiography showed no leakage from the optociliary shunt. The vascular abnormality has remained stable for 2 years.

This case highlights the correlation of optic disc drusen and optociliary shunts, which in diabetic patients can be misdiagnosed as neovascularization.

The authors have no any proprietary interest.

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