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SHORT COMMUNICATION

Case report

Spontaneous visual improvement in pituitary metastasis

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PURPOSE. *To report spontaneous visual improvement in a patient with unilateral optic neuropathy due to pituitary metastasis.*
METHODS. *Report of a case.*
RESULTS. *A 54-year-old woman with a history of breast carcinoma lost vision in her right eye to 20/70 without any other symptoms. Six days later, vision spontaneously improved to 20/30. A pituitary mass compressing the right intracranial optic nerve was found on magnetic resonance imaging and the diagnosis of metastatic breast carcinoma was confirmed by biopsy.*
CONCLUSIONS. *Spontaneous visual improvement can occur in the setting of compressive optic neuropathy by a solid mass. (Eur J Ophthalmol 2003; 13: 105-7)*

KEY WORDS. *Pituitary, Pituitary metastasis, Orbitopathology and exophthalmos*

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INTRODUCTION

Pituitary metastases are mostly asymptomatic, usually discovered at autopsy. Their incidence ranges from 0.14% to 28% (1). When symptomatic, they frequently present with pain, endocrine dysfunction, bitemporal visual field loss and oculomotor palsies (2). Visual loss is usually rapidly progressive.

We describe a patient with pituitary metastasis and unilateral optic neuropathy who presented spontaneous visual improvement.

Case report

A 54-year-old woman presented to her ophthalmologist with rapid painless visual loss in her right eye. On September 19, 1995 her visual acuity was 20/70 right eye and 20/20 left eye (one month earlier, visual acuity had been 20/20 in both eyes). A right inferotemporal paracentral scotoma was present on Amsler grid and fundus examination was normal OU.

Six days later, we examined her and she reported spontaneous visual improvement. Visual acuity was 20/30 in the right eye and 20/20 in the left, with a right afferent pupillary defect, and right dyschromatopsia (1/13 right eye, 12/13 left eye by Ishihara plates). Slight temporal pallor was noted in the right optic disc. Computerized visual fields revealed superior and inferior arcuate scotoma and a paracentral infero-temporal scotoma in the right eye; the left visual field was normal (Fig. 1).

The patient's history was remarkable for Reiter's syndrome, left breast carcinoma surgery in 1981 and right breast carcinoma surgery in 1990 with local radiotherapy. Regular follow-up visits had detected no local tumor recurrence or metastasis.

Magnetic resonance imaging revealed a 15-mm diameter lobulated mass in the pituitary fossa, bulging upwards for 5 mm in the suprasellar space, compressing the right intracranial optic nerve (Fig. 2) . Clinically, there was no endocrine dysfunction, but gonadotropin levels were low (slight partial hypopituitarism). The patient underwent uneventful transphenoidal

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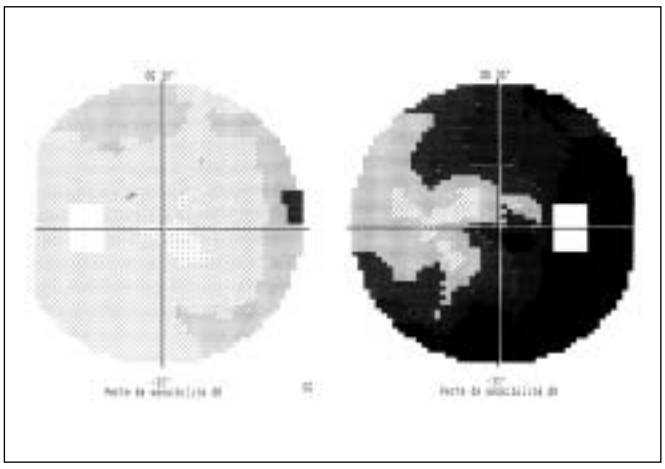

Fig. 1 - *Computerized visual fields (Octopus, Interzeag AG, program G1) showed a unilateral visual field defect in the right eye.*

biopsy of the tumor. Pathology was consistent with metastatic carcinoma.

Surgery was uneventful and the post-operative course was favourable. By history vision was unchanged, and the patient declined further examination. Panhypopituitarism developed and was treated orally with levothyroxin and hydrocortisone.

She was examined again three years later: the right eye was blind with complete optic atrophy, and an inferior visual field defect was present in the left eye. She died two years later from extensive intracranial and extracranial metastatic lesions.

DISCUSSION

Visual loss followed by spontaneous recovery is usually the hallmark of idiopathic/demyelinating optic neuritis. In the present case, the time course of visual improvement might have suggested an inflammatory mechanism of this sort. However, the patient was over 50 years old, she never complained of pain on eye movement, her history was positive for breast carcinoma, and fundus examination revealed a slight optic disc pallor (suggesting a longer-standing optic neuropathy).

There are rare reports of cases of transient visual loss (3) or slow visual improvement (4) in the setting of a compressive optic neuropathy. In such cases, visual fluctuations were thought to result either from small hemorrhages, edema, or necrosis within the tumor, or from an immune response directed against the tumor.

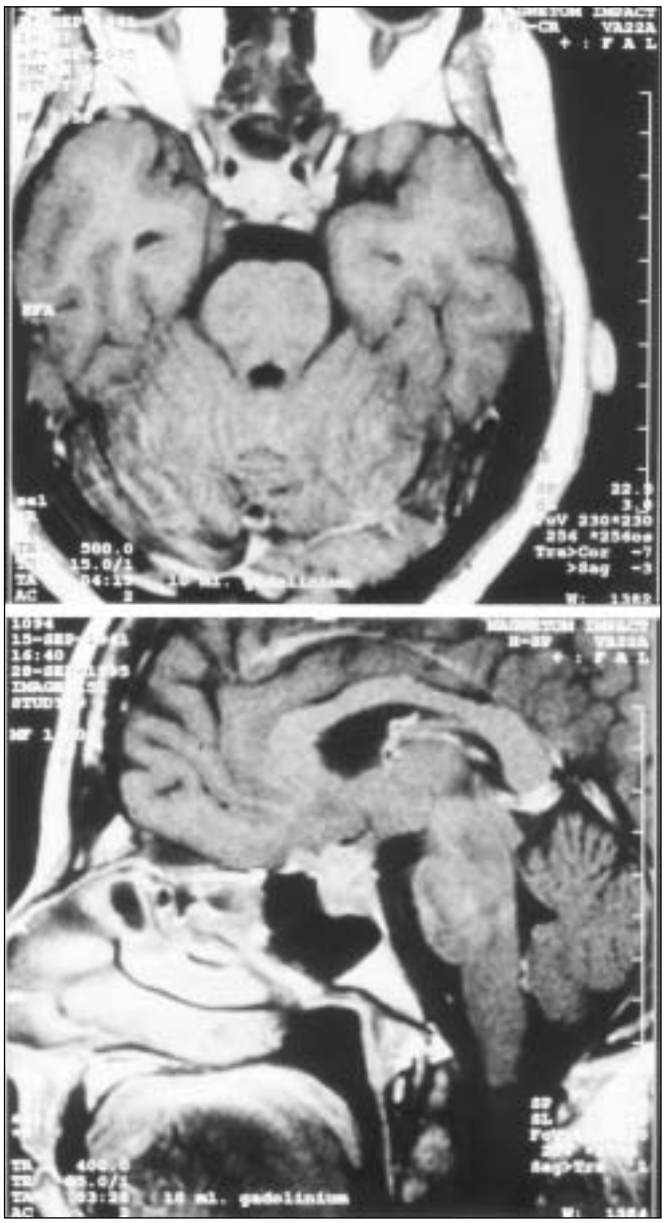

Fig. 2 - *Magnetic resonance imaging (T1-weighted sequences, gadolinium-enhanced): a lobulated mass in the pituitary fossa, bulging upward, is visible on axial (top) and sagittal (bottom) views.*

Patients with pituitary tumors mostly harbor an adenoma, as only 1% will have a metastatic lesion (5). To differentiate pituitary adenoma from metastasis, Aaberg et al emphasized the frequency of either clinical endocrine disturbances, headaches or periorbital pain, bitemporal visual field defect or oculomotor palsies

in cases of metastatic lesions to the pituitary (2). Except for a slight, asymptomatic partial hypopituitarism, our case had none of these features. Obviously, therefore, pituitary metastasis can manifest as fluctuating visual loss secondary to isolated unilateral optic neuropathy, without clinical endocrine dysfunction.

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