INTRODUCTION

The anatomic fovea actually encompasses an area contained just within the optic nerve and the superior and inferior retinal temporal arcades, and extends temporally approximately two disc diameters beyond the central fovea. The central portion of the macula is the fovea, which is 1 disc diameter wide. The center of fovea lies 0.5 mm inferior to a line drawn horizontally through the center of the disc[1]. Foveal ectopia is a condition in which the fovea is displaced markedly from its normal position[2]. The etiology of foveal ectopia includes trauma, chorioretinitis, developmental causes, vitreoretinal surgery and retinopathy of prematurity (ROP)[2]. Pituitary hormonal deficiency most often involves growth hormone (GH) alone[3]. As in idiopathic hypopituitarism, the defect may be limited to GH, or it can involve deficiencies of several other anterior pituitary hormones. The diagnosis of classic GH deficiency is suspected in cases of profound postnatal growth failure, with heights more than 3 standard deviations below the mean for age and gender[3].

We described a patient with unilateral idiopathic foveal pseudoeectopia associated with incyclotropia and growth hormone deficiency.

CASE REPORT

Foveal Pseudoectopia: Report of A Case and Review of the Literature

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Received: March 3, 2016
Revised: June 3, 2016
Accepted: June 6, 2016
Published online: September 18, 2016

ABSTRACT

A 17-year old woman presented to the ophthalmology department with low visual acuity in the right eye. The best-corrected visual acuity was 1/20 in the right eye and 20/20 in the left. Right fovea was observed in the upper temporal quadrant of posterior pole. Fluorescein angiography (FA) of right eye showed superior to a line drawn horizontally of central fovea through the center of the optic disc. Amblyopia and incyclotropia were observed in right eye. Increased latency (P: 139 ms) and decreased amplitude (A: 6.88 µv) was detected on Visual Evoked Potentials (VEP) testing for right eye. L-dopa, insulin, and clonidine tests were performed for short stature, and confirmed the diagnosis of growth hormone deficiency. Bagolini and Maddox double rod tests confirmed incyclotropia of the globe. Herein, we presented a case of unilateral idiopathic foveal pseudoeectopia associated with incyclotropia and growth hormone deficiency which has not been previously described.

Key words: Foveal ectopia; Amblyopia; Growth hormone deficiency

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to a line drawn horizontally of central fovea through the center of the optic disc (Figure 2). Limitations in range of motion of one or both eyes were not obtained. Ocular deviation was not detected on the alternate cover test.

Her family history regarding ophthalmologic diseases was unremarkable. Electroretinography (ERG) of both eyes was within normal limits. Increased latency (P: 139 ms) and decreased amplitude (A: 6.88 µv) was detected on Visual Evoked Potentials (VEP) testing for right eye (Figure 3). VEP of the left eye was within normal limits (Figure 3). Magnetic Resonance Imaging (MRI) of the brain and visual system showed no pathology.

Medical evaluation of the patient revealed short stature (body length 133 cm and weight 36 kg). L-dopa, insulin, and clonidine test were performed for the suspected GH deficiency and test results confirmed the diagnosis of GH deficiency. The patient was treated with recombinant somatotropine with 0.3 mg/kg/wk.
in unilateral incyclotropia may be associated with growth hormone deficiency. This incyclotropia was not associated with oblique muscle defects. This oblique muscle produce extorsion of the globe superior oblique muscle produce intorsion and overacting inferior oblique muscle present as well. Overacting is abnormal torsion, this situation may be related with overacting fovea is located below the physiological horizontal line. Any vertical displacement of the fovea with respect to the optic disc. Suppression and foveal scotoma were detected. In our patient, Bagolini striated glasses was used for testing sensory aspects of fusion. The streaks presents requires for determining degree of maturity regard eye on which are projected the images from the area of conscious sensory tasks. This adaptation eliminates central diplopia. The Bagolini striated lens that described the suppression scotoma gap in one of the streaks presents requires for determining degree of maturity. In our patient, Bagolini striated glasses was used for testing sensory aspects of fusion. Suppression and foveal scotoma were detected. Any vertical displacement of the fovea with respect to the optic disc below the normal ranges indicates that a cyclo deviation of the globe is present. Incyclotropism is present if the fovea is located above the physiological horizontal line and excyclotorsion is present if the fovea is located below the physiological horizontal line. If there is abnormal torsion, this situation may be related with overacting superior or inferior oblique muscle present as well. Overacting superior oblique muscle produce intorsion and overacting inferior oblique muscle produce extorsion of the globe. But in our patient incyclotropia was not associated with oblique muscle defects. This unilateral incyclotropia may be associated with growth hormone deficiency.

Most patients with hypopituitarism have no demonstrable lesion of the pituitary or hypothalamus. The functional defect is mostly hypothalamic rather than pituitary. The deficiency may involve GH alone or multiple hormones. A variety of provocative tests have been devised that rapidly increase the level of GH in normal children. These include a 20-min period of strenuous exercise or administration of L-dopa, insulin, arginine, clonidine, or glucagon. Peak levels of GH below 7 µg/L are compatible with GH deficiency. In our patient, L-dopa, insulin, and clonidine tests were consistent with GH deficiency. So, the patient was treated with recombinant somatotropin with 0.3 mg/kg/wk.

Bilateral or unilateral optic nerve hypoplasia is often associated with hypopituitarism. When it is also associated with absence of the septum pellucidum, the condition is known as septo-optic dysplasia. But macular ectopia associated with growth hormone deficiency has not been described. The condition presented could be co-existence of irrelevant diverse entities. Concomitant presentation of foveal ectopia and isolated growth hormone deficiency in a single patient was described in this study.

Herein, we presented a case of foveal pseudoectopia with incyclotropia and associated with growth hormone deficiency without strabismus which has not been reported previously.

**REFERENCES**


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