can be explained on the basis of overlying the fibrous hamartoma. Diagnosis of fibrous hamartoma of dermatofibroma and confirms the reactive reactivity to factor XIIIa and solitary fibrous tumor. The negative characteristics are valuable in confirming the diagnosis.

**Fibrous hamartoma** is a rare, benign entity that occurs in infants and young children. It rarely involves the face. The lesion can be successfully excised in most cases, with recurrent growth occasionally noted after incomplete excision.

Fibrous hamartoma is a rare, benign entity that occurs in infants and young children. It rarely involves the face. The lesion can be successfully excised, and its unique histopathologic characteristics are valuable in confirming the diagnosis.

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### Transient Homonymous Hemianopia and Positive Visual Phenomena in Patients With Nonketotic Hyperglycemia

Homonymous hemianopic visual field defects usually result from structural processes affecting retrochiasmal visual pathways. Cranial magnetic resonance imaging typically identifies the responsible lesions. Etiologies of homonymous hemianopias and normal neuroimaging include the Heidenhain variant of Creutzfeldt-Jakob disease, the visual variant of Alzheimer disease, occipital or global ischemia/hypoxia, MELAS (mitochondrial myopathy, encephalopathy, lactic acidosis, and stroke-like episodes), anemia, migraine, occipital seizures, functional illness, and nonketotic hyperglycemia (NKH). Herein, we report a case of transient homonymous hemianopia and positive visual symptoms caused by NKH and review the literature on this rare phenomenon.

**Report of a Case.** A 68-year-old man had well-controlled type 2 diabetes mellitus (blood glucose levels consistently 90-130 mg/dL [5.00-7.22 mmol/L]). His physician changed his medication to insulin glargine in early December 2004, which resulted in poorly controlled blood glucose levels that were consistently more than 600 mg/dL (33.31 mmol/L) until early January. He developed intermittent photopsias, visual hallucinations, and “distorted” vision OU in the middle of December 2004. He denied having any other visual or neurologic symptoms.

**Visual acuities** were 20/50 OD and 20/40 OS. Automated perimetry revealed a complete left homonymous hemianopia (Figure 1). The rest of his neuro-ophthalmic examination findings were unremarkable except for nuclear sclerosis in the right eye and scleral buckle in the left.
Cranial magnetic resonance imaging (including diffusion-weighted imaging, fluid attenuated inversion recovery, and gadolinium) and single-photon emission computed tomography scans showed normal results. Neuropsychological test results were unremarkable. His blood glucose levels improved to 100 to 150 mg/dL (5.55-8.33 mmol/L) and the hallucinations resolved 1 week later. At 2-week follow-up, automated perimetry showed resolution of the homonymous hemianopia (Figure 2). Electroencephalogram was not obtained given the prompt resolution of symptoms after blood glucose levels improved.

Comment. “Stroke mimics” are unusual manifestations of nonvascular conditions that may resemble acute stroke symptoms and may result from metabolic, psychiatric, and central nervous system disorders (seizure, complicated migraine, tumor, myasthenia, and multiple sclerosis). Metabolic disorders represent a small subgroup (0.7% of mimics) of potentially treatable causes of acute focal neurological deficits. They include hypoglycemia, hyperglycemia, hyponatremia, hypoxia, uremia, and hepatic encephalopathy.

Seizures have been reported in 25% of patients with NKH; published reports emphasize partial motor seizures almost exclusively. However, other clinical manifestations include hallucinations, myotonic twitches, nystagmus, tonic eye deviations, hemiparesis, hemisensory defect, aphasia, and homonymous hemianopia.

Figure 1. Thirty degree Humphrey visual fields of left eye (A) and right eye (B). Note a dense left homonymous hemianopia is present during the period of uncontrolled hyperglycemia.

Figure 2. Thirty degree Humphrey visual fields of left eye (A) and right eye (B). Note resolution of the visual field defect after correction of hyperglycemia.
The patient herein developed transient homonymous hemianopia and positive visual phenomena secondary to NKH. We found only 7 other cases in the literature (Table). The average blood glucose level was 538 mg/dL (29.86 mmol/L) with a minimum of 343 mg/dL (19.04 mmol/L). There were 5 men and 3 women. All but 1 were older than 55 years of age. Half of the cases experienced visual symptoms only. The symptoms all resolved within days of controlling the blood glucose level. Although not completely understood, the pathophysiologic mechanism in some cases may occur from underlying seizure activity, as evidenced by electroencephalogram abnormalities.

When glucose concentration rises, water is osmotically attracted from the intracellular fluid space, resulting in cellular dehydration, alteration of enzyme activity, and subsequent neuronal dysfunction. Additionally, most patients with focal seizures in NKH are elderly and may have cerebral areas with borderline vascular supply. Given the stresses of hyperosmolality, incipient vascular ischemia in an area of borderline perfusion leads to cellular anoxia, clinically manifested in focal neurological deficits and focal seizures. This interaction between an area of potential dysfunction and the epileptogenic effect of hypertonic glucose solutions has been experimentally demonstrated. In keeping with this hypothesis, Maccario reported a recurrence of stereotyped neurologic symptoms with hyperglycemia. In conclusion, NKH should be considered in patients with homonymous hemianopia, positive visual phenomena, and negative neuroimaging studies. The mechanism is not completely understood but may represent ictal or postictal inhibition.

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**Abbreviations:** CT, computed tomography; EEG, electroencephalogram; MRI, magnetic resonance imaging; NA, not applicable; SPECT, single-photon emission computed tomography.

SI conversion factors: To convert glucose to mmol/L, multiply by 0.05551.

*Resolution refers to time to normalization of homonymous hemianopia field defect after blood glucose control.*


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