

A RAPIDLY DEVELOPING CATARACT IN IDIOPATHIC HYPOPARATHYROIDISM: A CASE REPORT

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ABSTRACT

Rapidly developing cataract in idiopathic hypoparathyroidism is rare. Here we report, a case of cataract which developed rapidly and was associated with idiopathic hypoparathyroidism in a 20-year-old female patient. The case is being reported for its rarity and early diagnosis which was presented in a tertiary care hospital. For cases like these, prompt treatment is essential which may result in prevention of complications like vision loss. As per literature research via pubmed.com, this is the first case report of rapidly developing cataract in a patient of idiopathic hypoparathyroidism in Pakistan.

Key Words: Cataract, Vision loss, Idiopathic Hypoparathyroidism.

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INTRODUCTION

Hypoparathyroidism describes a condition in which there are low circulating levels of parathyroid hormone (PTH). It may also be due to insensitivity to the action of this hormone¹. The causes of hypoparathyroidism vary; however, they all share common features of hypocalcemia². The presentation of hypoparathyroidism also depends upon on how chronically hypocalcemia is present^{2,3}. Muscle spasms due to tetany are a common finding, however paresthesias, and seizures may occur in an acute onset. Although chronic hypoparathyroidism itself is a rare finding, if untreated may present itself and may only be evidenced by visual impairment due to cataract formation in young individuals^{4,5}. Here, we report a case of rapidly progressive cataract in idiopathic hypoparathyroidism in a female patient aged 20 years. This is a rare finding and is being reported for its rarity. Awareness of this rare complication can help in early diagnosis, prompt treatment and prevention of potentially fatal complications like vision loss.

CASE REPORT

A 20-year-old woman, house wife from Afghanistan was admitted in Medicine Ward BMC Hospital Quetta

through OPD with presenting complaints of progressive loss of scalp hair for the last one month and blurring of vision that was acute in onset for the last seven days. Alopecia was diffuse in nature and pattern and it involved the whole scalp. Visual disturbance were preceded by lot of watery secretion and itching of both eyes. During history taking her husband reported that she started having feelings of numbness and tingling on her both upper and lower limbs eight years back. It started gradually in her upper limbs and within few months it progressed to her lower limbs as well. No history of itching, jaundice and fits. She was not taken to any tertiary care unit during these sequences of events.

On further questioning, he stated that his wife has slow movements and is unable to understand people alertly. The husband also mentioned that his wife (the patient) remains silent most of the time of the day and has disturbed sleep and appetite.

There was no history of thyroidectomy or hospitalization in the past. No known co-morbidities like diabetes, hypertension and epilepsy were present.

Her past history indicated that she was married three years back, and had two normal deliveries. There was no history of abortion, smoking or drug abuse. The socio-

economic status of the patient was low.

On examination she had bilateral cataract with dilated pupils of both eyes. Vision was restricted only to perception of light. Her scalp showed diffuse pattern of hair loss. No signs of fungal infection were seen. Tetany as a result of muscular spasm and carpopedal spasm were positive at the time of admission while Chvostek's and Trousseau's signs were negative although she had no dysmorphic features. Lab investigations revealed that her serum calcium was 6.0 mg% (N 8.6 -10.2 mg %), PTH was 4.50pg/ml (N 16 - 57 pg/ml), phosphate was 2.6 mg% (N 2.5 - 4.5 mg %), along with normal levels of albumin, blood sugar, liver function tests, alkaline phosphatase and renal function test. MRI scan was performed to observe any changes but the scan revealed no intracranial calcification or any other abnormality. With these investigations, after ruling out of other causes of hypoparathyroidism the possibility of Idiopathic hypoparathyroidism was suggested. The patient was treated with intravenous calcium gluconate, oral calcium salt thrice a day and alfacalcidol 1µg daily. Patient did improve symptomatically and was referred to Ophthalmology department for cataract surgery, where surgery was performed and improvement in vision was reported during follow-up of the patient. The patient and her family were counseled for the well being of this patient.

DISCUSSION

Hypoparathyroidism is an endocrine disorder that can be a result of diverse reasons. When no obvious cause is detected it is termed as the idiopathic variety¹. Clinical manifestations in hypoparathyroidism result from hypocalcemia, while biochemical abnormalities reveal hyperphosphatemia, in addition to decreased detectable levels of serum parathyroid hormone and calcium².

The presentation of hypoparathyroidism also varies depending on the chronicity of the resultant hypocalcemia². Muscle spasms due to tetany are a common feature, paresthesia, and seizures may occur in an acute onset, whereas chronic hypoparathyroidism may only be evidenced by visual impairment due to cataract formation. Cataracts may occur with any condition especially due to a depletion of calcium in the body³. This side effect may manifest alone or may be associated with latent tetany, either of the idiopathic variety or as a result of parathyroid destruction during thyroid surgery. The onset of hypoparathyroidism is often in adolescence but may show signs and symptoms in later part of life. In adults however, low calcium is usually a result of hypoparathyroidism of the so-called spontaneous variety. Seizures, associated with headaches and papilledema, may occur. Cataracts are present in approximately half the patients^{3,4}.

In our patient there was no history of surgery and on examination no neck scar was visible, MRI report confirmed the presence of the thyroid gland, therefore the cause of low calcium could not be distinguished. Chronic renal failure (often in patients undergoing dialysis) has been associated with cataractous changes, and this may be related to a lowering of the serum calcium⁴

Cataract is a well-known complication of hypoparathyroidism but it is rarely presented in patients. The typical appearance is characterized by cuneate radial opacities. The progression of cataract is typically slow in patients with idiopathic hypoparathyroidism. There are also cases in which the typical hypocalcemic cataracts have an extremely rapid evolution, in particular when hepatic and renal failure occurs, with alteration in the serum calcium and phosphorus levels but in our patient, her hepatic and renal functions were normal⁵.

Cataracts may occur with any condition that leads to a depletion of calcium, (primary or secondary) or may simply present itself as idiopathic. Literature research showed that it may be due to autoimmune diseases, other common phenomena resulting in depletion of calcium are post-thyroidectomy, pseudo-hypoparathyroidism, and vitamin D deficiency. Delayed diagnosis and treatment of such conditions may result in severe side effects that could lead to latent tetany, pseudotumor cerebri, seizures, headaches, cataract and papilloedema⁶.

Authors report that hypocalcemia associated with end-stage renal disease and hemodialysis has been linked with cataractous changes. Punctate and flake-like lesions and iridescent crystals appear in the anterior cortex, or, less frequently, a zonular type of cataract may appear. These opacities may remain unchanged or mature rapidly^{7,8}.

Hypoparathyroidism is one endocrine deficiency disorder for which the missing hormone is not the standard diagnosis and therapy, this may vary accordingly. Symptomatic hypocalcemia in acute stage is managed by continuous infusion of 10% calcium gluconate diluted in 100 ml 5% dextrose⁷. The actual value of corrected calcium level is often regarded as a threshold for acute management. The current options of chronic management include oral calcium 1.5-2.0 g/day, magnesium (if deficient), vitamin D (including its metabolites especially 1, 25-dihydroxyvitamin D₃ as calcitriol 0.5-1.0 µg daily) and thiazide diuretics (reduces urinary calcium excretion)⁸ Treatment is lifelong as the deficiency cannot be replaced by the hormone which may result in psychological manifestations⁹⁻¹¹.

In conclusion this reported case is a rare condition. Early diagnosis is very important as well as prompt treatment is essential for prevention of complications like permanent vision loss as indicated in our case re-

port. Idiopathic hypoparathyroidism should be considered in the differential diagnosis in especially young patient presented with bilateral cataract¹⁰.

Further such cases should be reported so as to explore for other causes and treatment of cataract which develop harshly in patient who have reduced PTH and calcium.

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