Case Report

"Never Judge a Book by its Cover"-The socio-cultural aspects of non-epileptic seizures in India-A case study

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Abstract

"Health for All" will never be attained if sociocultural bias and pervasive hypocrisy are not eliminated. The patient mentioned in this case study had difficulty gaining access to health care for more than two decades. The seizure history was modified due to social pressure. The primary healthcare workers' ability to provide timely access to healthcare regardless of caste, religion, or gender, even in the most remote regions of the country, is of paramount importance. The patient was diagnosed with hypoparathyroidism and treated with calcium and vitamin D in high oral doses. The case also illustrates the significance of medical examination in preventing future difficulties in patients with presenile cataract.

Keywords: Epilepsy, neurology, seizures

Background

Social stigma is a significant obstacle to universal health care, particularly in low- and middle-income nations. This is impacted by numerous social and religious beliefs that have been prevalent in our culture for millennia. Numerous ailments, including leprosy, epilepsy, mental health, cancer, People Living with HIV (PLHIV), and obesity, have been stigmatized.[1]

Gender discrimination is an additional evil that has severely impacted healthcare systems in numerous nations. In India, women experience both social shame and gender discrimination. In turn, this results in the formation of a parallel self-proclaimed healthcare system comprised of quacks and tantrik babas, as well as low compliance with allopathic therapy, which increases morbidity and mortality. Our case report illustrates how a woman who visited our hospital was diagnosed with a hypo-parathyroidism, if treated promptly, may have saved her eyesight, and improved her quality of life.

Case presentation

A 44-year-old lady and her husband reported loss of consciousness the day before to the visit to the OPD. According to the patient's husband, the loss of consciousness was preceded by upper and lower limb paralysis, eye rolling, teeth clenching, and saliva dribbling. The patient could not recall what happened when asked. Her spouse reported a similar thing happened three days

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before and was classed as supernatural by a quack. Non-allopathic local treatment restored her awareness.

According to her spouse, she started taking tablet Furosemide 40 mg (her husband simultaneously shows the strips) which was suggested by a quack two weeks ago for her tingling sensation and numbness in all four limbs.

There was no history of headache, nausea, vomiting, fever, impaired vision, changed smell or taste, difficulty deglutition, tinnitus, vertigo, syncope, pedal edema, palpitations, or chest discomfort. The patient had no history of hypertension, diabetes, tuberculosis, or any other chronic ailment, although she had cataract surgery 20 years ago.

She experienced seizures since childhood. Her family was afraid of stigma that would prevent her from marrying. When she suffered a seizure as a youngster, she was taken to a nearby tantrik baba, who tortured and starved her. She said the therapy helped, and she did not have another incident until she married. Upon marriage, she had further seizures, and her spouse had the same therapy. Her high school-aged children forced her to seek allopathic care. Her day-worker spouse ignores her illness. She had eyesight difficulties since she was 12-year-old, but her parents ignored it. When she turned to 18, her parents began planning her wedding, but when they realized she had poor eyesight, they had her operated. Local quacks who treated her from infancy sent her to an eye expert.

After getting the patient's medical history, we began the examination. We detected repeated tonic contractions of her right upper limb when taking her blood pressure. Trousseau's sign was positive. Patient evaluated at hospital. She had BP of 126/82 mmHg. An extension of the QTc interval (485 msec) and an increase in the length of the ST segment were consistent with hypocalcemia on the ECG. Vitamin D deficiency causes most adult hypocalcemia. Hypoparathyroidism, renal illness, end-stage liver disease, tumors, and medicines can induce hypocalcemia. Complete hemogram, liver and renal function tests, serum electrolytes, ionized calcium, phosphorus, magnesium, and vitamin D levels are suggested. Her left upper limb developed hypocalcemic tetany the next day. This was treated with intravenous calcium gluconate for four to six hours at 0.5 mg/kg/hr. Successfully ended tetany.

We investigated medical literature for a condition that may cause both early-onset cataract and hypocalcemia caused by vitamin D deficiency and hypoparathyroidism. Vitamin D deficiency is more common than hypoparathyroidism. The most common cause of hypoparathyroidism is surgery, although our patient had no neck surgeries. Hypoparathyroidism is a bigger distinction since cataracts are more prevalent with it than vitamin D deficiency.

Non-surgical hypoparathyroidism is more linked to cataracts than to neck surgery problems. The tests showed low corrected serum ionized calcium (3.8 mg/dl; normal range 4.4–5.2 mg/dl), high serum phosphorus (12 mg/dl; normal range 2.5–4.3 mg/dl), normal hemoglobin and blood counts, blood sugar, liver function tests, and renal function tests. 25-OH vitamin D levels were low (5.52 ng/ml; 30–100 ng/ml normal). Normal range is 1–2 mg/dl. Magnesium was 2 mg/dl. Elevated phosphorus and low calcium promote hypoparathyroidism. A serum intact parathormone level of 6.45 pg/dl (normal range: 10–65) was also recorded. A brain CT to diagnose a seizure showed bilateral basal ganglia calcification. The therapy began with 500 mg calcium carbonate twice daily and 40000 IU vitamin D daily. Furosemide was stopped. Calcium-rich diet prescribed.

Maintain low serum ionized calcium and normal serum phosphorus. The patient was released with less tingling and numbness and no new seizures.

Discussion

Epilepsy prevalence in India is approximately 1%[2] The majority of patients do not receive treatment. Patients from rural locations receive up to 90 percent less treatment than patients from urban areas.[3] Poverty, lack of understanding and willingness to seek modern allopathic care, lack of access to diagnostic and treatment, cultural beliefs, social stigma, poor health delivery infrastructure, and paucity of skilled personnel are hypothesized to be the underlying causes.[4–7] Epileptic individuals are typically not welcomed for marriage in Indian culture. Our society has failed to persuade them that epilepsy is comparable to asthma, hypertension, diabetes, and thyroid problem. In addition, the situation becomes considerably more direr if the patient is female. Indian households are deeply established in gender inequity since they view male children as a necessary to sustain the generation. Discrimination exists at all stages of life. There is female feticide during gestation. If parents are poor, they choose to provide good nutrition to male children over female children. Household labor is still regarded a task unique to female children, for which they must either sacrifice their education or be denied it altogether. Parents begin saving for dowry as soon as a girl is born, and if she has a medical issue, the dowry amount increases exponentially.[8]

In research by Nam *et al*.,[9] the prevalence of presenile cataract was reported to be 13.91 percent. Common causes of cataract in young people include atopy, trauma, diabetes., dyslipidemia, smoking, steroids, UV exposure, myxedema, and excessive myopia. In young age-groups, posterior subscapular cataract is the most prevalent kind of cataract. Both hypoparathyroidism and vitamin D deficiency are known, but uncommon cataract causes.[10]

A patient with hypoparathyroidism who is on loop diuretics may develop more severe hypocalcemia. Furosemide increases calcium excretion in the urine. In our case, timely recognition of Trousseau's sign was advantageous. Trousseau's sign is very sensitive and specific for hypocalcemia since it is present in 94% of patients with hypocalcemia versus 1% of patients with normal calcium levels. QT prolongation due to ST segment

elongation is the most frequent ECG abnormality associated with hypocalcemia. Vitamin D insufficiency, hypoparathyroidism, and renal illness are the most frequent causes of hypocalcemia in adults.

In India, the prevalence of vitamin D insufficiency is about 70 percent. In one investigation, the prevalence of hypoparathyroidism due to any cause was reported to be 37 instances per 100,000 people. Even lower (8 per 100,000) was the incidence of non-surgical hypoparathyroidism. The study by Das *et al.* did not find statistical significance for vitamin D insufficiency. It was discovered in 1880 that hypoparathyroidism might produce cataracts. The suggested mechanism for cataract formation is the deposition of calcium phosphate crystals within the lens. Furthermore, it is predicted that non-surgical hypoparathyroidisms are more strongly related to cataract development than post-surgical hypoparathyroidism. Our patient's CT brain scan revealed bilateral basal ganglia calcification. Hypoparathyroidism is a well-documented cause of basal ganglia calcification, as indicated by numerous scholarly sources. In vitamin D deficiency, both serum calcium and serum phosphorus levels fall, whereas in hypoparathyroidism, serum calcium levels fall, and serum phosphorus levels rise.

If this patient had had access to contemporary medicine as a youngster, then she would have been able to receive appropriate care. Her vision could be preserved. Due to three factors, our patient's diagnosis and treatment were delayed unnecessarily. First, gender discrimination is regarded a social stigma in developing nations, followed by encounters with quacks and seizures. Patients continue to suffer for extended durations without receiving medical attention. In terms of gender equality, women's empowerment, healthcare access, the eradication of social stigma, and the control of quacks, our society need numerous reforms. The primary healthcare system should be bolstered so that it can reach every person in the periphery in a timely manner.

Conclusions

- Awareness must be prevailed against social stigma for diseases like seizures so that the patients can reach the hospital timely and get proper treatment by the primary care physicians.
- Patients with presenile cataract must be referred to a physician for evaluation.
- Efforts must be put while taking case history of female patients in developing countries to unveil sociocultural factors that could have affected her current illness.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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