Intractable hypocalcemic seizures due to hypoparathyroidism

Dear Editor,

In your recent issue, we read the case report "Intractable hypocalcemic seizures with neuropsychiatric symptoms- An under-diagnosed case" written by Kaeley *et al*.[1] This case report was very well summarized and highly informative. Hypocalcemia is one of the important causes of intractable seizures. The authors explained various acute and chronic manifestations of hypocalcemia along with felicitous take-home messages. Primary care physicians should be aware of hypocalcemic seizures whenever they encounter patients with refractory seizures.

Clinical presentation of hypoparathyroidism also varies depending on the duration of hypocalcemia. Muscular cramps, tetany, numbness, cardiac arrhythmias, altered behavior, and seizures are usually acute manifestations, and cataracts, basal ganglia calcifications, dilated cardiomyopathy, dementia, and cerebellar dysfunction are chronic manifestations.[2]

Seizures due to idiopathic hypoparathyroidism are often misdiagnosed as epilepsy. MRI Brain for this misdiagnosed epilepsy suggests intracranial calcification which increases suspicion of hypoparathyroidism. Idiopathic hypoparathyroidism needs to be kept as a differential diagnosis of intractable generalized, tonic-clonic seizures so that primary care physicians can prevent anonyms use of anti-epileptic drugs in this condition. Hypocalcemia with intracranial calcifications is a diagnostic clue for hypoparathyroidism. Early treatment with calcium and vitamin D helps to prevent the recurrence of seizures and other neurological complications.[3]

Intracranial calcification is an infrequent complication of hypoparathyroidism. Factors that predispose this intracranial calcification have not been completely explicated. Persistent hypocalcemia and hyperphosphatemia promote deposition of calcium-phosphorus complexes in brain parenchymal tissue. Increased expression of osteogenesis-related molecules like osteonectin/osteopontin in the caudate nucleus and grey matter could favor metastatic calcification in hypoparathyroidism.[4]

Autoimmune hypoparathyroidism is the second most common form of hypoparathyroidism in adults after postsurgical hypoparathyroidism. Auto-immune hypoparathyroidism and genetic causes are important etiological factors that should be ruled out before labeling as idiopathic hypoparathyroidism. Anti-calcium sensing receptor (CaSR) antibodies and genetic testing for Glial Cell Missing-2 (GCM2) or CaSR genetic mutations can be done for further work-up.[5]

The non-availability of these genetic testing facilities in most of the Indian medical institutes and the economic constraints of patients are important limiting factors for the diagnosis of auto-immune hypoparathyroidism.

Primary care physicians and family physicians should keep a differential as hypocalcemic seizures whenever they face refractory seizures, not responding to antiepileptic drugs.

Key points:

1. Hypocalcemia is an important cause of intractable seizures.
2. Auto-immune hypoparathyroidism should be ruled out before labelling as idiopathic hypoparathyroidism.
3. Primary care physicians should be aware about hypocalcemic seizures whenever they encounter the patients with intractable seizures.

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Conflicts of interest

There are no conflicts of interest.

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