ORIGINAL RESEARCH PAPER

General Medicine

CASE OF UNCONTROLLED SEIZURES DUE TO POOR MEDICATION ADHERENCE

KEY WORDS: seizure, periventricular heterotopia, anticonvulsants, medication adherence

Divya Bandu Hagawane* 2nd Year Pharm D student, Modern College of Pharmacy, Nigdi, Pune -44, *Corresponding Author

Atharva Pushkar Nanday 2nd Year Pharm D student, Modern College of Pharmacy, Nigdi, Pune -44

Dr. Punam Radheshyam Kela Asst. Professor, Modern College of Pharmacy, Nigdi, Pune -44

ABSTRACT

Periventricular heterotopia is a rare and chronic disease which cannot be cured completely but well defined treatment with proper history taking and patient counseling can improve patient's quality of life. It occurs due to malfunctioning of cortical development caused when a cluster of neuron fails to migrate from the ventricular zone to cerebral cortex resulting in seizures. Current case report is of a 42 year old female patient presented with repetitive seizures, weakness, muscle pain and unreasonable mood swings. Poor medication adherence caused worsening of patient's condition. The patient was successfully recovered by proper medication and patient counseling.

INTRODUCTION

Approximately 8%to 10% of the population experience a seizure during their lifetime amongst which only 2%to 3% of them go on to develop epilepsy. [2] Periventricular/ sub ependymal heterotopia is a rare disease in which malfunctioning of cortical development is resulted when a cluster of neuron fails to migrate from the ventricular zone to cerebral cortex resulting in seizures. [4]Hence, understanding the underlying cause leads to an accurate diagnosis to ensure appropriate treatment for patients with low risk for recurrence are not treated unnecessarily.[2] PH mainly occurs due to mutation in x-linked FLNA gene or mutation in autosomal genes (ARFGEF 2). The main symptom is recurrent seizures but less likely commonly people with PH may have more severe brain malfunctioning, small head size, recurrent infection, blood vessel abnormalities etc. The x-linked form of PH usually affects females because in male severity may cause death before birth. It is not cured completely but symptoms can be minimized. [2, 3, 4]

CASE REPORT

A 42 year old female came up with complaints of repetitive seizures, weakness, muscle pain, discomfort and some unreasonable mood swings. After seizure attack patient showed symptoms of claustrophobia, confusion, and uncontrolled movements accompanied by violent behavior. The patient had a history of generalized tonic clonic seizure from last 23 years (1996). Treatment was initiated in 1997 with Eptoin 100 OD but the symptoms were not relieved. History also briefed of trying to commit suicide due to depression and late pregnancy. Patient had seizure free period in pregnancy and after pregnancy for 1 year. CT scan and MRI were done in 2006 which implied:

MRI Report- Irregularity along the wall of left lateral ventricle due to multiple nodular lesions similar to sub- ependymal grey matter heterotopia.

CT scan Report- Nodularity along the wall of left lateral ventricle which appears lined by grey matter suggestive of grey matter heterotopia.

Patient was prescribed with:

1. TAB Oxetol 300 BD for 7 days (Oxcarbazepine)
2. TAB cloba 5 BD for 1 month (Clobazam)
3. Tab Eptoin 100 mg OD for 1 month (Phenytoin)

Anticonvulsant Eptoin 100 was continued for next 9 years but the medication did not relieve patient's symptoms. So on this basis medication was stopped by physician (for 4 years). But after cessation of the medication seizure frequency increased with violent behavior and unreasonable mood swings. In the year 2019 patient was diagnosed with hypertension and started on amlodipine 5 mg OD.

After 2 months from the Hypertension diagnosis and re-consultation with the physician the anticonvulsant Eptoin 100 was started again with proper patient counselling and the symptoms had been minimal since then.

The symptoms of the patient can be divided technically into three phases.

1. When the patient was primarily diagnosed with periventricular heterotopia, Eptoin 100 mg OD (Phenytoin) was initiated but without a proper patient counseling for the same. Hence the symptoms of repetitive seizures, depression with weakness and suicidal tendencies did show a very slight improvement.
2. 2nd phase of symptoms was of a considered time as during this time span, the medication was stopped by the physician, and hence there was a notable change in the symptoms.
   The symptoms were repetitive seizures with violent behavior, unreasonable mood swings and myalgia.
3. The 3rd or most exponential phase of the patient symptom is the ongoing phase where patient has only 1 to 2 seizure episodes in a month; the unreasonable mood swings are diminished, the muscle pain is reduced and no violent behavior was observed. This phase is significant as the previous medication (Eptoin 100 mg OD) was restarted with proper patient counseling and as a result of positive feedback the symptoms are relieved.

DISCUSSION

Adult onset seizures are most prevalent in the young and middle-aged adults than the elderly; generalized seizures are more prominent than focal seizures. [1,2] Some studies had shown that maximum patients suffer from adult onset seizure due to stroke followed by a CNS infection and brain tumor but in this case the etiological factor is periventricular heterotopia which cannot be cured but the symptoms (epilepsy) can be minimized by anticonvulsants.[5,6] In this case medicine was prescribed according to the guideline but

poor patient counseling and less medication adherence led to ineffectiveness of treatment and sudden stopping of medication caused worsening of the condition.[1,6]

CONCLUSION

Sudden stopping of an anticonvulsant can increase seizure frequency. As periventricular heterotopia is a non-curable disorder it requires long term drug therapy; may be for life time and hence requires lot of patient adherence and compliance. To improve patient adherence proper patient counselling is to be done by physician and pharmacist, and patient should be aware of treatment goal. Accurate identification and proper awareness about the etiological factors and the seizure type help in better management of these patients. Treatment of epilepsy is complicated venture, requiring collaboration of physician and helps the patient to achieve optimum outcome. The pharmacist fits well into these milieus by helping patient to integrate therapy into the life.

REFERENCES

1. (walkwer, 2012)
2. Kaur, S., Garg, R., Aggarwal, S., Chawla, S. P. S., & Pal, R. (2018). Adult onset seizures: Clinical, etiological, and radiological profile. Journal of family medicine and primary care, 7(1), 191.
3. Commission on Epidemiology and Prognosis, & International League against Epilepsy. (1993). Guidelines for epidemiologic studies on epilepsy. Epilepsia, 34(4), 592-596.
4. Ryan M; seizure disorder in adults , 5th edition, pharmacotherapy self-assessment programme
5. Wilner, A. N. Case Study-New Onset Seizures in the Elderly.
6. Basheikh, M. (2017). Case report: Epilepsy surgical outcome for epileptic and non-epileptic seizures with posttraumatic stress disorder and depression. Epilepsy & behavior case reports, 8, 14-17.