

Dose-Dependent Levetiracetam Cutaneous Side Effect

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Abstract: *The association between Levetiracetam and cutaneous skin reactions is not fully described. Our case is a young female patient who developed hyperpigmented skin lesion following Levetiracetam dose titration. It is appeared to be a reversible dose-dependent reaction.*

Keywords: epilepsy, neurology, levetiracetam, cutaneous, antiepileptic, dermatology

1. Introduction

Levetiracetam has rarely been linked with cutaneous side effects in the literature. I have faced one case of cutaneous side effect following levetiracetam treatment plan. I report this case to add on previously suspected or confirmed cases that have been discussed in the literature. Dose-dependent skin manifestations has been noticed and it is the main aim to report this case.

2. Case / Clinical Report

An 18-year-old female patient who diagnosed with primary generalized epilepsy for 16 months. She was treated with sodium valproate in another hospital. Then, shifted with us to Levetiracetam because of valproate side effects. Initial Levetiracetam dose was 500mg TWICE daily then she was kept on 750mg TWICE daily for about six months. Due to breakthrough seizures, we increased her dose to be 1000mg TWICE daily. After ten days of new dose initiating, she started to notice skin changes over her hand bilaterally. She did not stop AED, and she presented to the emergency department then given very near appointment with neurology. She presented to the clinic with hyperpigmentation skin changes over dorsal surfaces of her hands bilaterally at day 20 after new dose initiation. There were noticeable early similar skin changes over her feet bilaterally which was not noticed by the patient. The skin changes estimated to involve about 10% of body surface area. Her rash was managed accordingly. Levetiracetam has been replaced by topiramate successfully without seizures recurrence or rash. Her condition was improving gradually.

3. Discussion

Her hyperpigmentation skin changes have been linked to Levetiracetam due to lack of other causative agents neither infectious nor other medication usages. In literature, there were some cases of multiple skin changes have been linked to Levetiracetam, and they showed improvement after discontinuation and management. Cutaneous side effects following anti-epileptic drugs (AED) are described in the literature that might be more linked to phenytoin, phenobarbital, carbamazepine, oxcarbazepine and lamotrigine [1]. Others are rarely associated with cutaneous

manifestations like Levetiracetam and topiramate. In general, medication side effects can range from simple reversible effects to a life-threatening stage, including cutaneous reactions. In our case, what we noticed that her cutaneous changes were dose-dependent. The risk of titration rate and its relation to the appearance of cutaneous side effects is described with some AEDs like lamotrigine [2]. Although no AED is free from the potential of inducing idiosyncratic reactions, the magnitude of risk and the most common manifestations vary from one drug to another, a consideration that impacts on treatment choices [3].

4. Conclusion

Levetiracetam induced cutaneous skin side effects is noticed again in our case. It is may be dose-dependent as what happened in this case. Continuous monitoring and observation with patient education should be considered. Further studies are recommended to determine risk factors either genetic or non-genetic ones. Till now, it is deemed to be rare to see such side effects following Levetiracetam, but if any, immediate intervention should be performed accordingly.

5. Funding Support

None

6. Conflict of interest

There is nothing to declare.

References

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