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Experience with subcutaneous levetiracetam in palliative care patients: prognostic and pharmacological considerations☆

Experiencia de uso de levetiracetam subcutáneo en pacientes paliativos: consideración pronóstica y farmacológica

Dear Editor:

We read with great interest the article by Más-Sesé et al.,[1] reporting a case series on the compassionate use of subcutaneous levetiracetam in palliative care patients with poorly controlled epilepsy. A growing body of evidence is available on the use of subcutaneous levetiracetam for epilepsy secondary to primary or metastatic brain tumours in palliative care patients; these studies focus on the safety, tolerability, and effectiveness of this administration route (> 80%), and assess the use of levetiracetam in monotherapy or combined with benzodiazepines or other antiepileptic drugs.[2]

Before recommending subcutaneous levetiracetam, we must determine the patient's clinical status and vital prognosis and the drug's requirements and administration route. Although in the study by Más-Sesé et al.[1] the time from treatment onset to death was 3-16 days, palliative scales may be useful in determining the patient's functional status and estimate the mean survival time according to their condition.[3] Knowing this information favours the timely implementation of additional pharmacological and psychological treatment strategies, and enables physicians to closely monitor and modify levels of the drug in the serum in patients with longer survival times. Doses of 250-4000 mg/day have been used, assuming a therapeutic range of 10-40 μg/mL.[4] This is an important variable to consider in future studies, given that while the correlation between oral and subcutaneous drug concentrations is estimated at 1:1, cases have been reported of patients requiring dose adjustments to achieve a positive response; the pharmacokinetics of the drug should also be considered.[5]

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In the case series reported by Más-Sesé et al.,[1] subcutaneous levetiracetam was administered intermittently every 12 hours with a butterfly needle. Cases have been reported of continuous levetiracetam infusion at doses of 44-166 mg/h with elastomeric pumps, showing satisfactory results, similar to those associated with intermittent infusion. In determining the most appropriate administration route, several factors should be considered, including the ease of application, the possibility of administering the drug on an outpatient basis, and the experience of the treating physicians.[6] Concomitant use of other antiepileptic drugs, opioid analgesics, non-opioid analgesics, and benzodiazepines should be considered before starting or withdrawing levetiracetam in palliative care patients, as they may present symptoms requiring additional pharmacological or non-pharmacological treatments.[7] Given that some symptoms may require management at the end of life, it is important to define pharmacological treatment resistance. In patients presenting refractory epilepsy despite treatment with subcutaneous levetiracetam, we may consider palliative sedation, a useful therapeutic approach to relieve refractory suffering.[8] Lastly, providing psychological support to patients' families before and after the patient's death is essential to promoting acceptance.[9]

We thank the authors for their case series, which contributes new evidence on the safety and efficacy of subcutaneous levetiracetam for palliative care patients with epileptic seizures. Before subcutaneous levetiracetam can be recommended for use in palliative care patients with epilepsy, future studies must establish the correlation between oral and subcutaneous doses, determine serum drug concentrations, evaluate prognostic scales, and analyse the effect of concomitant medications.

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Conflicts of interest

The authors have no conflicts of interest to declare.

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