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Hormonal Vs. Non-Hormonal: Approach to Treatment of Catamenial Epilepsy. A Literature Review

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Key Points

Question:
Is hormonal or non-hormonal therapy more effective in treating catamenial epilepsy (CE)?
How do different treatment approaches impact seizure control in women with epilepsy?

Findings:
CE affects 33–50% of women with epilepsy, often linked to fluctuations in progesterone levels.
A study by Nucera B et al. (2023) found that progesterone therapy (10–300 mg/day) showed mixed effectiveness in randomized controlled trials, despite previous reports of benefit.
Among anti-epileptic drugs (AEDs), levetiracetam (58.7%) was the most commonly used, followed by carbamazepine (34.2%) and phenytoin (7.1%).
EEG studies during menstrual phases confirmed increased seizure activity, reinforcing the hormonal influence on seizure patterns.

Meaning:
Progesterone therapy shows potential benefits, but its effectiveness remains inconsistent in clinical trials.
Non-hormonal treatments, particularly AEDs, remain the primary intervention, though their efficacy in CE-specific cases needs further validation.

Abstract

Importance:
Catamenial Epilepsy (CE) is a phenomenon that occurs in women suffering from epilepsy and is defined as more frequent seizures during certain phases of the menstrual cycle. The prevalence is highly variable with estimates ranging 33%-50% of women with epilepsy (WWE) affected. Low concentrations of progesterone during anovulatory cycles may potentiate seizure activity and both hormonal and non-hormonal therapies have been suggested. There is low number of studies concerning CE and we want to have a deeper understanding and elaborate the importance of treatment whether hormonal or non-hormonal treatment will suffice the said condition.

Objective:
The main aim of the research is to have a wider knowledge regarding treatment approach in Catamenial Epilepsy with hormonal or non-hormonal medications.

Evidence Review:
This research used 19 different case reports, randomized controlled trials and literature review focusing on Catamenial Epilepsy (CE) in the view of better treatment, whether hormonal or non-hormonal approach is necessary. The detailed literature search from 2015 to 2024 was collected from PubMed, with the aim of analyzing the current approach in treatment of catamenial epilepsy in reproductive age women. We used the keywords; “Catamenial epilepsy,” “Hormone related epilepsy,” “Epilepsy during Menstruation Cycle,” “Catamenial epilepsy treatment,” “Catamenial epilepsy hormonal treatment” and “Catamenial epilepsy non hormonal treatment” while looking for the studies.

Findings:
In a study done by Nucera B, et al. 2023, during the luteal phase or perimenstrual exacerbations of 457 patients, 10- 30 mg/day to 300 mg/day of progesterone was administered, the therapy proved ineffective in the randomized controlled trials even though usually the therapy is effective. Comparing the hormonal treatment with anti-epileptic drug, Levetiracetam was the most common drug used with 108 patients (58.7%), followed by Carbazepine with 63 patients (34.2%), and lastly Phenytoin with 13 patients (7.1%). Catamenial Epilepsy was seen in 73 patients (39.7%). The patients were under EEG, during a phase of their menstrual cycle, and it showed an increased activity with seizures.

Conclusion:
Progesterone therapy shows more promise compared to non-hormonal treatment due to a study stating its positive effect against seizures. Further research is necessary to better understand and raise awareness of catamenial epilepsy, despite the lack of data regarding hormonal therapy as a treatment.

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