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**EVOLIUCINĖ MEDICINA:
ŽMOGAUS RAIDOS PERSPEKTYVOS IR SVEIKATA
BESIKEIČIANČIOJE APLINKOJE**

**EVOLUTIONARY MEDICINE:
PERSPECTIVES ON HUMAN DEVELOPMENT AND HEALTH
CONSEQUENCES IN A CHANGING ENVIRONMENT**

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CURRENT INSIGHTS INTO CATAMENIAL EPILEPSY: BRIDGING NEUROENDOCRINOLOGY AND WOMEN'S HEALTH

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Background and Aim: To summarise current evidence regarding the epidemiology, pathophysiology, diagnosis, and treatment of catamenial epilepsy, with emphasis on neurosteroid mechanisms and individualised management strategies.

Materials and Methods: A focused literature review was conducted using PubMed/MEDLINE and the Cochrane Library for publications from 2012–2025. Search terms included “catamenial epilepsy”, “menstrual cycle”, “progesterone”, and “neurosteroids”. Forty-five full-text publications were screened, and 23 studies meeting inclusion criteria were analysed.

Results: Catamenial epilepsy (CE) is characterised by seizure exacerbations linked to menstrual cycle phases and is classified into perimenstrual (C1), periovulatory (C2), and inadequate luteal/anovulatory (C3) patterns. Recent evidence suggests CE may affect up to 70% of women with epilepsy, with C1 being the most prevalent subtype. Mechanistically, estrogen exhibits proconvulsant effects, whereas progesterone-derived neurosteroids, particularly allopregnanolone, exert anticonvulsant activity by modulating GABA-A receptors. Neurosteroid withdrawal during the perimenstrual phase appears central to seizure vulnerability. Diagnosis remains dependent on cycle-synchronised seizure tracking and ovulation assessment. Therapeutic evidence remains heterogeneous. Cyclic progesterone therapy demonstrates potential benefit mainly in women with pronounced C1 patterns, while intermittent benzodiazepines, hormonal suppression, and neurosteroid-based therapies may provide individualised treatment options in refractory cases.

Conclusions: Catamenial epilepsy represents an important but frequently underdiagnosed neuroendocrine epilepsy subtype. Current evidence supports individualised, pattern-specific management approaches, while future research should prioritise standardised diagnostic criteria, biomarker development, and targeted neurosteroid-focused clinical trials.

Keywords: catamenial epilepsy, menstrual cycle, neurosteroids, progesterone, women's health