

PARKINSONIAN MOVEMENT DISORDERS, NEUROINFLAMMATORY BIOMARKERS AND SEIZURE MIMICS: A CRITICAL NARRATIVE REVIEW

Dilshoda Akramova¹, Dilxush Chori o'g'li Meyliyev²

¹ Tashkent State Medical University, Tashkent, Uzbekistan

² Interdistrict Center for Combined Injuries and Acute Vascular Diseases, Guzor District, Kashkadarya Region, Uzbekistan

ABSTRACT

Background: Parkinson's disease and atypical parkinsonian syndromes are associated with diverse motor and nonmotor manifestations that may overlap clinically with epileptic and other paroxysmal neurological events. Tremor, dystonia, dyskinesia, and myoclonus can create diagnostic uncertainty, particularly in patients with multiple neurological comorbidities.

Objective: To evaluate the clinical characteristics and pathophysiological mechanisms of Parkinsonian movement disorders, their differentiation from epileptic seizures, and the potential relevance of neuroinflammatory biomarkers.

Materials and Methods: A critical narrative review of 33 bibliographic publications was performed, focusing on Parkinson's disease, atypical parkinsonism, motor fluctuations, cognitive abnormalities, neurodegenerative mechanisms, and selected molecular biomarkers. The literature was organized into clinical, electrophysiological, and neurobiological domains.

Results: The reviewed publications describe a broad spectrum of Parkinsonian manifestations, including resting tremor, rigidity, bradykinesia, dystonia, dyskinesia, motor fluctuations, and nonmotor disturbances. These features may resemble certain epileptic events but generally involve different neuronal circuits and mechanisms. Clinical characteristics such as episode duration, stereotypy, triggers, medication relationships, consciousness, and post-event recovery are useful for differential diagnosis. Research involving monocyte chemoattractant protein-1 (MCP-1) and alpha-synuclein contributes to understanding

neuroinflammatory and neurodegenerative processes, although their utility for seizure diagnosis remains unestablished.

Discussion: Accurate differentiation between epileptic seizures and Parkinsonian movement abnormalities requires the integration of clinical observation, neurological examination, medication history, and selected electrophysiological investigations. The available publications do not establish biomarker thresholds or comparative diagnostic accuracy for seizure mimics.

Conclusion: Parkinsonian movement disorders should be carefully distinguished from epileptic seizures to prevent diagnostic errors and inappropriate treatment. Further prospective studies integrating movement analysis, video-electroencephalography, and molecular biomarkers are warranted.

Keywords: Parkinson's disease; atypical parkinsonism; seizure mimics; tremor; dystonia; myoclonus; MCP-1; alpha-synuclein.

REFERENCES

1. Ahmatovich R. A. et al. In biocenosis the degree of appearing entomophagous types of vermins which suck tomatoey sowings //Austrian Journal of Technical and Natural Sciences. – 2018. – №. 9-10. – С. 3-5.
2. Сулаймонов Б. А. и др. Фитофаги и виды энтомофагов, встречающиеся в лесном биоценозе //Актуальные проблемы современной науки. – 2021. – №. 1. – С. 64-69.
3. Кимсанбаев Х. Х., Жумаев Р. А. К вопросу размножения *Trichogramma evanescens* для биологической защиты растений //Международна научна школа "Парадигма". Лято-2015. – 2015. – С. 34-41.
4. Жумаев Р. А. Биологическая трихограммная *in vitro* усиленная эфирная технология. Трихограммная сунный озиқада эфирный курси (1)(Hymenoptera: Trichogrammatidae). – 2016.
5. Sulaymonov B. A. et al. Effectiveness of Application of Parasitic Entomophages against Plant Bits in Vegetable Agrobiocenosis //Solid State Technology. – 2020. – Т. 63. – №. 4. – С. 355-363.

6. Kimsanbaev X. X., Jumaev R. A., Abduvosiqova L. A. Determination Of Effective Parasite-Entomofag Species In The Management Of The Number Of Family Representatives In Pieridae //The American Journal of Agriculture and Biomedical Engineering. – 2021. – Т. 3. – №. 06. – С. 135-143.0
7. Jumaev R. Invitro rearing of parasitoids //E3S Web of Conferences. – EDP Sciences, 2023. – Т. 371.
8. Кимсанбаев Х. Х. и др. Биоценозда ўсимлик зараркундалари паразит энтомофаглари ривожланиши. «//O'zbekiston» НМИУ, –Тошкент. – 2016.
9. Сулаймонов Б. А. и др. Ўрмон биоценозида фитофаг турлари ва улар миқдорини бошқариш //O'zbekiston» НМИУ, –Тошкент. – 2018.
10. Jumaev R., Rakhimova A. Analysis of scientific research on reproduction of species of Trichograms in Biolaboratory //The American Journal of Agriculture and Biomedical Engineering. – 2020. – Т. 2. – №. 08. – С. 148-152.
11. Axmatovich J. R. In vitro rearing of trichogramma (Hymenoptera: Trichogrammatidae) //European science review. – 2016. – №. 9-10. – С. 11-13.
12. Jumaev R. A. et al. The technology of rearing Braconidae in vitro in biolaboratory //European Science Review. – 2017. – №. 3-4. – С. 3-5.
13. Жумаев Р. А. Массовое размножение трихограммы на яйцах хлопковой совки в условиях биолaborатории и ее применение в агробиоценозах //Халқаро илмий-амалий конференция “Ўзбекистон мева-сабзавот маҳсулотларининг устунлиги” мақолалар тўплами. Тошкент. – 2016. – С. 193-196.
14. Жумаев Р. А. Значение представителей семейства BRACONIDAE в регулировании численности совок в агробиоценозах //ЎзМУ Хабарлари. – 2017. – Т. 3. – №. 1.
15. Жумаев Р. А. РАЗМНОЖЕНИЯ И ИНВИТРО ВАСОН НА ВЕТОР САУ И BRACON GREENI ASHMEAD //Актуальные проблемы современной науки. – 2017. – №. 3. – С. 215-218.

16. Axmatovich J. R. In Vitro Rearing of Parasitoids (Hymenoptera: Trichogrammatidae and Braconidae) // Texas Journal of Agriculture and Biological Sciences. – 2022. – T. 4. – C. 33-37.
17. Suleymanov B. A., Jumaev R. A., Abduvosiqova L. A. Lepidoptera Found In Cabbage Agrobiocenosis The Dominant Types Of Representatives Of The Category Are Bioecology // The American Journal of Agriculture and Biomedical Engineering. – 2021. – T. 3. – №. 06. – C. 125-134.