M U N I

COMMENTARY TO HABILITATION THESIS[1]

Pediatric epileptology

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Pediatric epileptology is a very important branch of pediatric neurology. The classification of the epilepsies has changed significantly in recent years, pointing to experience we know from clinical practice: Is Rolandic epilepsy benign, indeed? Do idiopathic epilepsies always have a good prognosis? Is it only epileptiform discharges in the EEG that interfere with the neurodevelopment of a child with epilepsy? There are still many questions; advances in diagnostics, especially genetic, answer some of them. The genetics of epilepsies have made tremendous progress and elucidated the cause of epilepsy in many of our patients. It ended a very exhausting and stressing diagnostic oddyssey and relieved many patients and their families. It also showed us a new path that is a huge challenge for pediatric epileptologists and a promising outlook for the future - precision medicine strategy. Treating not only the symptoms of epilepsy, but also its cause sounds like the music of the future and we believe it will become more and more real.

The author's work is divided into several parts, which are interwoven with her own scientific results and observations.

The first part deals with the classification of seizure types and epilepsies.

The second part focuses on the description of important epileptic syndromes and outlines the proposal of the forthcoming ILAE Classification of Epileptic Syndromes.

The last part is focused on the genetic causes of epilepsy and concludes the work on linking genetics and phenotype to "new genetic epileptic syndromes" with the possibility of applying precision medicine strategy.

Where relevant, chapters are accompanied by commentaries introducing the topic of each publication, describing the current state of knowledge and how the author has contributed to knowledge in this field.

The work is based on research activities at the authors' workplaces, the Department of Pediatric Neurology, Faculty of Medicine, Masaryk University and University Hospital Brno.

The work is concluded with a collection of author´s published scholarly works with commentary.

[1] The commentary must correspond to standard expectations in the field and must include a brief characteristic of the investigated matter, objectives of the work, employed methodologies, obtained results and, in case of co-authored works, a passage characterising the applicant's contribution in terms of both quality and content.

[1][2] Danhofer P, Tomečková M, Černá D, Zapletalová D, Horák O, Aulická Š, Juříková L, Domanský J, Kovalčíková P, Pavlík T, Štěrba J, Ošlejšková H. **Prognostic factors and seizure outcome in posterior reversible encephalopathy syndrome (PRES) in children with hematological malignancies and bone marrow failure: A retrospective monocentric study.** Seizure. 2019 Nov;72:1–10. doi: 10.1016/j.seizure.2019.08.007

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
25	20	20	10

[2] Danhofer P, Brázdil M, Ošlejšková H, Kuba R. **Long-term seizure outcome in patients with juvenile absence epilepsy; a retrospective study in a tertiary referral center.** Seizure. 2014 Jun;23(6):443–7. doi: 10.1016/j.seizure.2014.03.002.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
25	0	50	25

[3] Danhofer P, Pejčochová J, Dušek L, Rektor I, Ošlejšková H. **The influence of EEG-detected nocturnal centrotemporal discharges on the expression of core symptoms of ADHD in children with benign childhood epilepsy with centrotemporal spikes (BCECTS): A prospective study in a tertiary referral center.** Epilepsy Behav EB. 2018 Feb;79:75–81. doi: 10.1016/j.yebeh.2017.11.007.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
30	10	40	30

[4] Horák O*, Burešová M*, Kolář S*, Španělová K, Jeřábková B, Kolář S, Česká K, Réblová K, Zídková J, Fajkusová L, Ošlejšková H, Danofer P. **Next-generation sequencing in children with epilepsy: The importance of precise genotype-phenotype correlation.** Epilepsy Behav 2022; 19; 128:108564. doi: 10.1016/j.yebeh.2022.108564.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
20	30	30	20

[5] Danhofer P, Horák O, Fajkusová L, Pavloušková J, Ošlejšková H. **Syndrom Dravetové: Těžká myoklonická epilepsie v časném dětství: kazuistiky.** Cesk Slov Neurol N 2014; 7/110(2): 243-6.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
20	20	40	20

[2] Bibliographic record of a published scientific result, which is part of the habilitation thesis.

[6] Česká K, Aulická Š, Danhofer P, Horák O, Fajkusová L, Pouchlá S, Ošlejšková H. **Syndróm Dravetovej s mutáciou v SCN1A géne, genetické aspekty a klinické skúšenosti**. **C**esk Slov Neurol N 2018; 81(1): 55-9.doi: 10.14735/amcsnn201855.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
20	0	20	15

[7] Danhofer P, Horák O, Fajkusová L, Pavloušková L, Ošlejšková H. **Syndrom Dravetové: těžká myoklonická epilepsie v časném dětství.** Neurol praxi 2015; 16(1): 38-42.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
20	0	50	30

[8] Danhofer P, Brunová K, Ošlejšková H. Syndrom **Dravetové (těžká infantilní myoklonická epilepsie): charakteristiky onemocnění v dospělém věku**. Neurol praxi 2017; 18 (2): 113-6.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
20	15	40	15

[9] Danhofer P, Zech M, Bálintová Z, Baláž M, Jech R, Ošlejšková H. **Brittle Biballism-Dystonia in a Pediatric Patient with GNAO1 Mutation Managed Using Pallidal Deep Brain Stimulation.** Mov Disord Clin Pract. 2021;8(1):153–5. doi: 10.1002/mdc3.13118.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
20	0	50	30

[10] Česká K, Aulická Š, Horák D, Danhofer P, Říha P, Mareček R, Šenkyřík J, Rektor I, Brázdil M, Ošlejšková H. **Autosomal dominant temporal lobe epilepsy associated with heterozygous reelin mutation: 3 T brain MRI study with advanced neuroimaging methods.** Epilepsy Behav Case Reports 2019; 11: 39-42. doi: 10.1016/j.ebcr.2018.10.003

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
20	20	20	40

[11] Cahová P, Pejčochová J, Ošlejšková H**. Hyperaktivní porucha u dětí s epilepsií.** Cesk Slov Neurol N 2011; 74/107(2): 157-162.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
15	20	50	15

[12] Danhofer P, Horák O, Aulická Š, Česká K, Pejčochová J, Fajkusová L, Ošlejšková H. **Genetické a neurobiologické aspekty komorbidního výskytu poruch autistického spektra a epilepsie.** Cesk Slov Neurol N 2019; 82(2): 148-54. doi: 10.14735/amcsnn2019148.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
20	0	50	30