

## COMMENTARY TO HABILITATION THESIS<sup>1</sup>

The presented habilitation thesis is an annotated collection of previously published scholarly works dealing with the topic of diagnostics and conservative therapy of retinal diseases. It focuses on the issue of acquired macular diseases. For clarity, the habilitation thesis is divided into four separate units. The first and most extensive part is devoted to age-related macular degeneration (AMD). This section includes two papers dealing with the presence of genetic polymorphisms in patients with age-related macular degeneration. One study showed an association between the CD36 polymorphism and the occurrence of elevation of intraocular pressure after intravitreal administration of anti – VEGF (vascular endothelial growth factor) drugs. Another study demonstrated an association between the occurrence of the wet form of AMD and polymorphisms for HTRA1, CFH, and ARMS2 genes. The chapter also includes articles publishing the results of treatment of AMD by photodynamic therapy with Visudyne, by anti-VEGF drugs in the pro re nata regimen, and by biosimilar anti-VEGF agents in the fixed regimen. One of the works presents the results of treatment from the national Amadeus registry. The individual treatment results are compared with each other and with the results of double-blind multicenter studies. Development in the treatment of age-related macular is documented in this thesis. The chapter also contains works presenting anti-VEGF drugs to the professional public or work dealing with the issue of AMD diagnosis on optical coherence tomography.

The second chapter includes the articles publishing the results of treatment of myopic and post-inflammatory choroidal neovascular membranes by photodynamic therapy with Visudyne and by anti-VEGF agents. The article following up the results of anti-VEGF treatment was the outcome of the cooperation of four eye clinics of university hospitals in the Czech Republic. Another retinal disease that I discuss in my habilitation thesis is central serous chorioretinopathy. It typically affects young men of productive age, and widely used anti-VEGF therapy is not effective in this disease. Photodynamic therapy with Visudyne is the only treatment option. This chapter comprises work publishing the problem of differential diagnosis and work that evaluates in detail the predictive factors of the results of

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<sup>1</sup> 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.

photodynamic therapy with Visudyne. The last chapter deals with the theme of macular involvement in retinal vascular diseases. This is a very extensive field covering mainly diabetic retinopathy and retinal vein occlusions. This part contains articles publishing the results of the treatment of diabetic macular edema with anti-VEGF drugs and articles of case reports of retinal vein prethrombosis in a young patient, transient worsening syndrome, treatment of juxtapapillary choroidal hemangioma or laser embolotomy in patients with retinal arterial occlusion.

**[1]<sup>2</sup> MATUSKOVA, Veronika**, Vladimir J. BALCAR, Naim A. KHAN, Ondrej BONCZEK, Laura EWERLINGOVA, Tomas ZEMAN, Petr KOLAR, Daniela VYSLOUZILOVA, Eva VLKOVA a Omar SERY. CD36 gene is associated with intraocular pressure elevation after intravitreal application of anti-VEGF agents in patients with age-related macular degeneration: Implications for the safety of the therapy. *Ophthalmic Genetics* [online]. 2018, **39**(1), 4–10. ISSN 1381-6810. Dostupné z: doi:[10.1080/13816810.2017.1326508](https://doi.org/10.1080/13816810.2017.1326508)

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
60	50	30	50

**[2] MATUSKOVA, Veronika**, Tomas ZEMAN, Laura EWERLINGOVA, Zuzana HLINOMAZOVA, Jan SOUCEK, Eva VLKOVA, Nandu GOSWAMI, Vladimir J. BALCAR a Omar SERY. An association of neovascular age-related macular degeneration with polymorphisms of CFH, ARMS2, HTRA1 and C3 genes in Czech population. *Acta Ophthalmologica* [online]. 2020, **98**(6), E691–E699. ISSN 1755-375X. Dostupné z: doi:[10.1111/aos.14357](https://doi.org/10.1111/aos.14357)

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
60	50	30	50

**[3] MATUŠKOVÁ, V.** Retinal tubulation. *Ceska a Slovenska Oftalmologie*. 2015, **71**(2), 83–86.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
100	100	100	100

**[4] MATUŠKOVÁ, Veronika**. Ranibizumab v léčbě věkem podmíněné makulární degenerace. *Farmakoterapie*. 2014, **10**(6), 738–743.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
100	100	100	100

<sup>2</sup> Bibliographic record of a published scientific result, which is part of the habilitation thesis.

**[5] MATUŠKOVÁ, Veronika.** Přínos přípravků proti vaskulárnímu endotelovému růstovému faktoru v oftalmologii. *Farmakoterapeutická revue*. 2018, **2018**(2), 219–224. ISSN: 2533-6878.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
100	100	100	100

**[6] VYSLOUŽILOVÁ, D., P. KOLÁŘ, V. MATUŠKOVÁ a E. VLKOVÁ.** Photodynamic therapy with Verteporfin in treatment of wet form ARMD - Long term results. *Ceska a Slovenska Oftalmologie*. 2012, **68**(3), 98–101.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
30	10	5	10

**[7] MATUŠKOVÁ, V., P. KOLÁŘ, D. VYSLOUŽILOVÁ, E. VLKOVÁ, L. DUŠEK, V. KANDRNAL, J. JARKOVSKÝ a M. UHER.** Ranibizumab in the ARMD wet form treatment - Two years results obtained from the AMADEuS registry. *Ceska a Slovenska Oftalmologie*. 2012, **68**(5), 171–177.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
30	20	100	30

**[8] WOO, Se Joon, Miroslav VEITH, Jan HAMOUZ, Jan ERNEST, Dominik ZALEWSKI, Jan STUDNICKA, Attila VAJAS, Andras PAPP, Vogt GABOR, James LUU, Veronika MATUSKOVA, Young Hee YOON, Tamas PREGUN, Taehyung KIM, Donghoon SHIN a Neil M. BRESSLER.** Efficacy and Safety of a Proposed Ranibizumab Biosimilar Product vs a Reference Ranibizumab Product for Patients With Neovascular Age-Related Macular Degeneration A Randomized Clinical Trial. *Jama Ophthalmology* [online]. 2021, **139**(1), 68–76. ISSN 2168-6165. Dostupné z: doi:[10.1001/jamaophthalmol.2020.5053](https://doi.org/10.1001/jamaophthalmol.2020.5053)

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
10	100	5	0

**[9] VYSLOUŽILOVÁ, D., P. KOLÁŘ a V. MATUŠKOVÁ.** Photodynamic therapy with verteporfin in treatment of myopic neovascular choroideal membranes. *Ceska a Slovenska Oftalmologie*. 2012, **68**(4), 131–134.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
30	10	5	10

**[10] MATUŠKOVÁ, V.** a D. VYSLOUŽILOVÁ. The use of intravitreal ranibizumab application in the treatment of post-inflammatory neovascular membranes - A case report. *Ceska a Slovenska Oftalmologie*. 2010, **66**(2), 89–91.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
80	80	100	50

**[11] STEPANOV, Alexandr, Martin PENCAK, Jan NEMCANSKY, Veronika MATUSKOVA,** Marketa STREDOVA, David BERAN a Jan STUDNICKA. Results of Ranibizumab Treatment of the Myopic Choroidal Neovascular Membrane according to the Axial Length of the Eye. *Journal of Ophthalmology* [online]. 2020, **2020**, 3076596. ISSN 2090-004X. Dostupné z: doi:[10.1155/2020/3076596](https://doi.org/10.1155/2020/3076596)

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

**[12] MATUŠKOVÁ, V.** Central serous chorioretinopathy as a masquerading syndrome of choroidal hemangioma. *Ceska a Slovenska Oftalmologie*. 2016, **72**(6), 209–214.

**Document Type: Article; SJR = 0,168; OPHTHALMOLOGY Q4**

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
100	100	100	100

**[13] MATUSKOVA, Veronika,** Daniela VYSLOUZILOVA a Michal UHER. Half-Fluence Photodynamic Therapy for Chronic Central Serous Chorioretinopathy: Predisposing Factors for Visual Acuity Outcomes. *Seminars in Ophthalmology* [online]. 2018, **33**(5), 690–699. ISSN 0882-0538. Dostupné z: doi:[10.1080/08820538.2017.1416414](https://doi.org/10.1080/08820538.2017.1416414)

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
50	100	100	50

**[14] MATUŠKOVÁ, V.** a D. VYSLOUŽILOVÁ. The possibility of the treatment of bilateral macular edema without the anti VEGF treatment - A case report. *Ceska a Slovenska Oftalmologie*. 2010, **66**(1), 30–35.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
90	100	100	50

**[15] MATUŠKOVÁ, V.** a B. HOLUBCOVÁ. Results of treatment of diabetic macular edema using intravitreal ranibizumab - One year results. *Diabetologie Metabolismus Endokrinologie Vyziva*. 2014, **17**(4), 189–194.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
50	100	100	100

**[16] MATUŠKOVÁ, Veronika.** Syndrom časného normoglykemického zhoršení. *Kazuistiky v diabetologii: české a slovenské vydání*. 2015, **13**(2), 11–16. ISSN: 1214-231X.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
100	100	100	100

**[17] MATUŠKOVÁ, V.,** D. VYSLOUŽILOVÁ a E. VLKOVÁ. Contraception and ocular thromboembolic episodes - A case report. *Ceska a Slovenska Oftalmologie*. 2013, **69**(2), 87–90.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
80	70	100	60

**[18] MATUŠKOVÁ, V.** a D. VYSLOUŽILOVÁ. The use of anti-VEGF preparations and PDT in the treatment of retinal juxtapapillary hemangioma - A case report. *Ceska a Slovenska Oftalmologie*. 2014, **70**(5), 196–200.

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
80	90	100	60

**[19] MATUSKOVA, V.,** D. VYSLOUZILOVA a E. VLKOVA. Nd:YAG laser embolysis for central branch retinal artery occlusion. *Journal Francais D Ophthalmologie* [online]. 2016, **39**(5), E115–E117. ISSN 0181-5512. Dostupné z: doi:[10.1016/j.jfo.2015.04.027](https://doi.org/10.1016/j.jfo.2015.04.027)

Experimental work (%)	Supervision (%)	Manuscript (%)	Research direction (%)
50	50	100	30