

## **REVIEW**

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**Subject:** Thesis of Assoc. Prof. Dr. Zdravka Velichkova Chalmanova - Demerdjeva, MD

"Ocular changes and vasography in patients with psoriasis"  
for the award of the degree of Doctor of Medical Sciences.

By Order No. 46 of the Executive Director and Procurator of Acibadem – City Clinic MBAL Tokuda, I was appointed as a member of the Scientific Jury under the procedure for public protection of Assoc. Prof. Zdravka Velichkova Chalmanova - Demerdjjeva, MD. At the meeting of the Scientific Jury I was selected as a reviewer of the presented dissertation for the award of the degree of Doctor of Medical Sciences.

The dissertation submitted to me complies with the requirements of the Academic Staff Development Act and the Academic Staff Development Rules at Ajibadem - Sitiklinik MBAL Tokuda.

### **Short biographical notes**

Prof. Zdravka Demerdjjeva was born on April 12, 1966 in Sofia. He completed his higher education in medicine in 1992. in MA-Sofia with excellent success. He started working as an intern at the Department of Dermatology and Venereology at MU-Sofia. In 2007 he defended his dissertation on "Syphilis and systemic dermatoses - changes in the lymphatic and blood vessels of the conjunctiva" and obtained his educational and scientific degree "Doctor of Medicine".

Since 2010. is the head of the Clinic of Dermatology and Venereology at Acibadem - City Clinic of Tokuda Hospital.

She has published a total of 74 articles, 64 of which are in Bulgarian and 10 in

foreign languages.

Assoc. Prof. Dr. D. Demerdjieva is the scientific advisor of 1 successfully defended dissertation. She is the scientific advisor of 2 specialists in skin and venereal diseases who develop theses, as well as the scientific adviser of 3 specialists.

## **Dissertation**

The dissertation presented is the first experience in Bulgaria and one of the few developments in the world to describe ocular changes in patients with psoriasis. In the last years of the 21st century, psoriasis has been considered a systemic disease. Two monographs on Psoriasis - a systemic disease are devoted to this topic, S., 2013. and "Psoriasis as a systemic disease" 2017, published by Bulgarian authors, most of whom are physicians at Acibadem - City Clinic Tokuda Hospital. In both monographs Assoc. Prof. Demerdjieva is the author of separate chapters. The study of ocular changes in psoriasis and their presentation is a contribution to the treatment of psoriasis as a systemic disease not only nationally but also internationally.

Assoc. Prof. Zdravka Demerdjieva's dissertation is written on 115 printed pages and is distributed as follows: Abbreviations used - 5 pages; Introduction and Literary Review - 39 pages; Purpose and tasks - 1 page; Material and methods - 3 pages; Results - 30 pages; Discussion of results - 16 pages; Conclude - 2 pages; Contributions - 1 page; Bibliography - 15 pages

## **Literature review**

Interactions with the skin microbiome, as well as data on the relationship with streptococcal and staphylococcal infections, the species Malasecia and other microorganisms are examined.

The main part of the literature review deals with ocular changes in psoriasis, distributed as follows: eyelids, conjunctiva, cornea, uvea, lens.

The anatomical arrangement of the lymphatic vessels of the eyelids and the connections and interactions between the blood capillaries, the interstitial tissue and the lymphatic vessels are discussed in detail.

The literature review is well-ordered, based on classic and new data from international medical literature, and is a solid basis for original scientific research.

The goal is formulated specifically and clearly - to identify changes in the microcirculation in the conjunctiva region of glutathione, pustular and arthropathic psoriasis by vasography of lymphatic and blood vessels. There are 8 Tasks that Assoc. Demerdzhieva develops consistently and thoroughly.

### **Material and methods**

148 psoriasis cases were investigated (67 hospitalized and 81 ambulatory

As a control group, 16 healthy volunteers reported.

I am amazed that the excellent description of «Preview conjunctival

in vivo lymphatic vessels "(p.29-31) and" Blood capillaries - interstitial tissue - lymphatic vessels - connections and interactions "(p.33-37) is not included as a synthesized description in the Methods used but is part of the Literature Review .

The processing of the survey data was done by a number of statistical methods: descriptive and evaluation methods (graphical and correlation analysis), regression analysis, hypothesis testing (parametric and non-parametric methods).

A  $p \leq 0.05$  coefficient was chosen for the significance level, which rejects the null hypothesis.

### **Results**

The results described strongly support the author's main thesis that ocular changes are observed in patients with diagnosed psoriasis, which support the claim that psoriasis vulgaris is a systemic disease. with psoriasis pustulosis, the rate of diffusion ranges from mild to moderate.

The results in the control group of 16 healthy volunteers contrast strongly with the observed disorders in the permeability of lymph and blood vessels in patients with various clinical forms of psoriasis.

### **Discussion of results.**

The fact that the time of diffusion from the lymph vessels to the perivascular space increases with age is logical, but the author opposes it to changes in the blood vessels, where the main factors are vascular pressure and the heart pump. It is pointed out that at

patients with psoriasis arthropathy, psoriasis pustulosis, and erythrodermal

psoriasis, lymph nodes are not visualized, indicating a severely reduced permeability in these clinical forms.

The question arises correctly that "to date no criteria have been established for the diagnosis of ophthalmic complications in patients with psoriasis, neither in general medicine, nor in ophthalmology and dermatology." In this context, we can accept the research of Assoc. Prof. Demerdjieva as fundamental in the medical literature.

### **Conclude**

The authors remained ocular changes in 33 of the patients with psoriasis (30.4%). This fact is a self that must be made during large-scale situations in some cases in psoriatic patients in Bulgaria. Let me show the difference in permeability of the lymphatic and blood vessels in psoriasis eruptive, psoriasis arthropathy and psoriasis vulgaris.

### **Contributions**

As the most significant of the original contributions presented, I consider those numbered 4 and 5 - for the first time in the literature, a difference in the permeability of the lymphatic and circulatory conjunctival vessels was observed in patients with different clinical forms of psoriasis. The proposal to include ocular symptoms in the eye is also worth considering quality of life in patients with severe psoriasis.

The abstract for the dissertation is from 52 pages and adequately reflects the main points of scientific development. A list of scientific papers related to the topic is attached to the abstract. They are a total of 12: 4 publications in English (in the WOS / S databases), 6 publications in the Bulgarian medical periodicals and 2 entries in monographs (one in Bulgaria (Space Vision, S., 2013, and abroad) (Lambert Academic publishing, 2017).

### **Critical notes:**

1. The chapter "Material and methods" does not include the description of vasography, which is the main method in the dissertation

2. A list of scientific papers related to the dissertation has not been attached to the printed dissertation.
3. The list of scientific papers printed in the abstract does not include the reports that Assoc. Prof. Demerdjieva has presented in our country and abroad on the topic of the dissertation work.
4. In the bibliography, pages "from" to "to" are cited differently, with complete numerical data (eg: 323-330) or by marking only the last page (eg: 800-1).
5. Spelling and factual mistakes are made on the inside cover of the thesis and the cover page of the abstract.

### **Conclusion**

Assoc. Prof. Zdravka Velichkova Chalmanova - Demerdzhieva's dissertation is the first study of ocular pathology in psoriasis vulgaris in the Republic of Bulgaria and one of the few studies in Europe. It defends the notion that psoriasis is a systemic disease and provides a basis for new and future studies in the direction of clinical and instrumental studies of the various anatomical areas of the eye. In this sense, her dissertation and contribution is a significant contribution nowadays and provides a solid basis for future research. I strongly recommend that the venerable Scientific Jury award the Doctor of Science degree to Assoc. Prof. Zdravka Velichkova Chalmanova - Demerdjieva, MD, Ph.D.

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Prof.Nikolay Tsnakov, MD, Phd