

„OVIDIUS” UNIVERSITY OF CONSTANȚA
DOCTORAL SCHOOL OF MEDICINE



DOMAIN OF RESEARCH: MEDICINE

ABSTRACT OF THE HABILITATION THESIS
“FROM SYMPTOM AND SIGN TO IMMUNOHISTOCHEMISTRY
IN INTERNAL MEDICINE AND ENDOCRINOLOGY”

CANDIDATE

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The thesis entitled “From symptom and sign to immunohistochemistry in internal medicine and endocrinology” presents the scientific, didactic and research experience accumulated during the 16 years since I have become Doctor in Medicine, along with my proposals of self-development in these fields.

The thesis has 3 main parts.

Part 1 includes the presentation of the results of my academic, professional and research activity, Part 2 brings proof of these results and describes my research areas of interest. In Part 3, I described my plans for future development in these fields.

Part 1

I attended the Faculty of Medicine of the Constanta “Ovidius” University in 1997 (degree 9.73 out of 10) and I sustained the license exam in Bucharest “Carol Davila” University of Medicine and Pharmacy – the endorser of the newly established Faculty of Constanța. After one year of internship I became, through national competition, resident doctor in internal medicine.

I obtained the title of specialist doctor in internal medicine after sustaining the exam in Craiova University of Medicine and Pharmacy (in 2004, mark 9.26) and the one of endocrinologist specialist (in 2009, mark 9.46).

Thereafter I became attending physician in both specialties: internal medicine (in 2009, mark 9.21) and endocrinology (in 2014, mark 9.21) and I obtained the competence in general ultrasound (2004).

From a **professional** point of view, I attended more than 30 lectures in internal medicine and endocrinology and I participated at more than 50 international and national congresses and conferences. I obtained a scholarship in pediatric endocrinology from the European Society of Pediatric Endocrinology: „Advanced Seminars in Developmental Endocrinology -The Adipose Tissue”, in 2009, in France.

My professional training included a Master in Health Services Management, too.

From an **academic** point of view, starting with 1998, I have gone through all the steps of my academic becoming inside de Discipline of Medical Semiology: university assistant (1999), lecturer (2013), and, since 2020, assistant professor in the Faculty of Medicine, „Ovidius” University of Constanța, all along, 22 years of didactic activity.

I have taught the students of the IVth year of General Medicine the lecture of “ECG” and “Diagnostic Procedures and Techniques in Cardiology” (since 2013) and the lecture of Nursing

to the students of the Ist year of the Balneo-physiokinetotherapy and recuperation Faculty (since 2013, also). Starting with 2019 I am teaching the lecture of Medical Semiology to the students of the IIIrd year in General Medicine and since 2017, I teach basic notions of thyroid ultrasound to the doctors registered in the post-university course of General ultrasound.

I wrote, as main author or as co-author, books and chapters in medical books meant to help both medical students and young doctors in their daily practice. Some of them are the following: **Irina Tica**. Noțiuni De Bază în Examenul Obiectiv. Editura EX PONTO, 2019, ISBN 978-606-598-780-7; **Irina Popișteanu**. în Victoria Ulmeanu - Clinical Diagnosis and Physical examination. Ed EX PONTO, Constanța, 1998, ISBN 973-9385-34-6; **Irina Tica**. „Citokinele: definire, clase, funcții, surse și receptori”. in Andrei Tica, Vlad Tica. Semnificația citokinelor in obstetrică și ginecologie. Ed SITECH, Craiova, 2002, ISBN 973-657-233-1; **Irina Tica** – colaborator in Mihaela-Maria Ghinea, Zizi Niculescu. „De la simptom și semn la diagnostic” Ed PIM, Iași, 2019, ISBN 978-606-13-5135-0.

I sustained 21 presentations, both oral and posters, presenting the results of my scientific research in internal medicine, medical semiology and endocrinology and I answered the requests of different professional societies, as National Society of Family Medicine, to keep lectures over different medical themes.

I was honored to be invited as a reviewer for prestigious journals as “Acta Endocrinologica”, „Endocrine, Metabolic & Immune Disorders – Drug Targets” and „European Journal of Medical Case Reports”.

I participated as co-investigator in clinical studies of fundamental research „EMBODY 2”, PXL Study number 109055 (UCB Study SL 0010), Site no. 759, during 2012-2013 and „EMBODY 4”, PXL Study number 109057 (UCB Study SL 0012), Site no. 759, during 2013-2014. This international, randomized, double-blind, multi-centric study was meant to introduce new molecules for treating patients with Systemic Lupus Erythematosus.

My **doctoral research** confirmed my passion for endocrinology and wove my knowledge in abdominal ultrasound, gastroenterology and internal medicine. I became a Ph.D. student at the University of Medicine and Pharmacy „Gr. T. Popa” Iași and I obtained the Ph.D. title in 2005.

The theme of my Ph.D. thesis was „Gall-bladder disorders during pregnancy” and its approach supposed achieving and using notions of gastroenterology, endocrinology, obstetrics-gynecology and internal medicine.

In the majority of the published studies, pregnancy represents a risk factor for biliary lithiasis' occurrence. In this context, my doctoral study brought confirmation for the pro-lithogenic modifications of the biliary juice but, at the same time, it revealed several peculiarities of the feminine population in Dobrogea.

Among the obtained results are: the proof that medium biliary volumes are statistically significant increased during pregnancy (à jeun and residual volumes) reported to the control and puerperal group; the proof that medium ejection fraction of the gallbladder during pregnancy is significantly lower than in the control and puerperal group. Based on these findings I made the affirmation that pregnancy induces a dysmotility of the gallbladder, mainly hypokinesia, inducing pro-lithogenic conditions.

In our study, probably a peculiarity of the studied population, pregnancy did not induce biliary lithiasis, only biliary sludge.

The results of the doctoral study were published in the Annals of the "Ovidius" University, Medical Science series and in Web of Science indexed journals, also.

Part 2

My post-doctoral research activity continued in the same note of interdisciplinarity as the Ph.D. theme. The studies are related to the two domains in which I obtained the title of attending doctor: internal medicine and endocrinology.

One of the research themes that capture my attention was related to endocrinologic implications in different pathologies as balneo-physiokinetotherapy, gynecology, cardiology and gastroenterology.

A particular research theme was the study of cytokines – hormone-like factors, and their implications in degenerative rheumatismal pathology and in cardiology. In this context I studied the level of BDNF in patients with lower lumbar pain induced by spinal disorders. Another cytokine with controversial properties, depending to pathology in which is implied, is adiponectin. In the studies I participated in, adiponectin had a protective role related to acute myocardial infarction but an unclear one, apparently pro-inflammatory, in case of patients taking hot-mud baths for knee osteoarthritis.

Another approached research theme was the endocrinology of fertility. In a time in which Romania, as other European countries too, travels through a time of demographic decrease, more and more couples are addressing *in vitro* fertilization (IVF) as the last solution for a desired

pregnancy. This is due, in part, to the fact that women desire a pregnancy only after achieving a certain professional and financial status and that is obtained at a more mature age, associated with a lower ovarian reserve. Daily stress as well as the IVF procedure induced stress can be factors that decrease the chances of a successful IVF. The most important marker of stress is the serum level of cortisol. In this context, we evaluated the level of serum cortisol before and along the IVF procedures and we correlated them estradiol levels. The conclusions of our study were that IVF seems to associate with a progressive but significant increase of cortisolemia without exceeding the physiological limits, that these values are not correlated with those of serum estradiol and that the values in the 1st day of the IVF can be used as control values in assessing the variation of the hormone along IVF.

More than this, due to my formation as semiologist, the detection of certain symptoms and signs in a less common context kept my attention. So, I considered it opportune to publish several cases of rare pathologies, especially to pinpoint over the existence of these associations of symptoms and signs and to make it easier to recognize this diagnosis in the future. These cases are situated at the intersection of specialties, also, having one thing in common: endocrinology. So, I published the only case in medical literature, up to the publication time, of a Biedl-Bardet syndrome associated with ovarian teratomas, or a rare case of endometrial calcification. In the same note, I published the case of a rare etiology of heart failure: hypocalcemia.

All these studies materialized in a number of 19 articles published in Web of Science indexed journals (12 as main author), generating a number of 175 citations and a Hirsch index of 8 along with a FCIAP of 13.43 as main author.

Part 3 presents my projects for future development in professional, academic and research domains.

My projects for professional development include active participation in the most important national and international scientific meetings and also to lectures meant to improve my knowledge. I will continue to fight for diminishing the bureaucracy that suffocates the research and development initiative in the health system.

I will continue to improve my teaching methods, the modalities of interaction with the students, as well as the collaboration with the students' societies in order to realize workshops in the domains of internal medicine and endocrinology. I want to offer the best possible training for resident doctors during their stage in internal medicine, so they can accumulate the newest

theoretical knowledge as well as important practical experience inside the Clinic. I will encourage them to present scientific reports during their training inside the Clinic but at national and international congresses also.

Not the last on the list, I intend to continue, even to extend my collaboration with colleagues from other disciplines, even from other faculties, not only from “Ovidius” University but from other university centers, with the purpose to elaborate important scientific papers.

To further develop my research activity, I intend to improve my personal visibility but also the one of the Faculty of Medicine of Constanța by presenting the results of my work at local, national, but mainly international scientific manifestations. Another purpose is to publish these results in prestigious journals, highly rated in international data bases as Web of Science (2-3 per year). I will be more implicated in publishing books or chapters in different publications, in order to present my professional experience and my scientific results.

I am planning for the future to initiate more research projects, and to increase the interdisciplinary collaboration with the Center for Research and Development for the Morphology and Genetic Study in Malignant Pathology – CEDMOG.

I am already collaborating with CEDMOG as director of a running research project entitled “The prognostic role of P53, P73 and PD-L1 in indolent non-Hodgkin lymphoma”, LYINDO project that I intend to extend. This grant, still ongoing, was gained through internal competition inside the “Ovidius” University of Constanța as part of the FDI Project: CNFIS-FDI-2019-0558, “Excellence, performance and competitiveness in biomedical research inside “Ovidius” University of Constanța.

The general objective of this project is to establish a relationship between the clinical aspect of the patients with indolent lymphoma and the expression of P53, P73 and PD-L1 and of the TP53, TP73 status in these patients, with implications in establishing indications for treatment and for implementing protocols for follow-up and treatment.

Conclusions

In this thesis I offered proof that I fulfill the necessary criteria for obtaining the title of habilitated coordinator for medical research in internal medicine and endocrinology: proof of my professional becoming – starting as an intern up to attending physician in both specialties, proof of my academic becoming – all the steps from a university assistant to associate professor, proof

of my implication in research – participation in research projects and publishing 19 articles in Web of Science indexed journals, generating a Hirsch index of 8 and a FCIAP factor of 13.43.

The title of Habilitated Associated Professor represents a component of credibility and recognition in the academic world and it imposes a superior quality of medical, didactic and research activity, interdisciplinarity and team spirit!