

ABSTRACT

The Habilitation thesis entitled "Clinical and invasive research in cardiology. Common and tangent areas in systemic hypertension and pulmonary hypertension " reflects my professional, educational and scientific work, additionally exposing a pertinent research, conducted after obtaining my Ph.D degree in Medicine.

Presented in December 2005, the PhD thesis entitled "Current concepts on diagnosis and treatment of Leriche syndrome" was coordinated by the distinguished Prof. Marius Sabau, an academic at the University of Medicine and Pharmacy Tirgu Mures. The aforementioned thesis contributed to achieving my title of PhD in Medicine, under the Order of Ministry of Education and Research, number 3824 from 05/03/2006.

Following the submission of my doctoral thesis, I became exclusively focused towards research, as well as academic and professional development, the main contributing factor being my previous clinical and research activity, along with my didactic activity. My research activity is sustained by relevant pappers, published during my postdoctoral development. The direction approached in my postdoctoral research studies is represented by first and foremost, cardio-vascular disease (with focus on invasive and non-invasive cardiology), additionally, considering interdisciplinarity as a third dimention of concern. I have undertaken these three areas of interest due to my qualifications in Internal Medicine, Cardiology and Interventional Cardiology respectively, as well as my academic position.

In 1992 I have obtained by means of a competition, the position of teaching assistant in the Department of Anatomy and Human Embryology at the University of Medicine and Pharmacy of Tirgu Mures, the same University that contributed to my development as a medical doctor. As a result of successively concluding my examinations, I attained the positions of assistant professor (1996-2007), lecturer (2007-2009), and associate professor in 2009 in the Department of Medical Semiology at The Faculty of Medicine UMF Targu Mures. Starting with 2011, I have been the head of the Department of Family Medicine at the Faculty of Medicine of the same aforestated prestigious University.

In 24 years of teaching I have guided a reasonable number of student generations, subsequently PhD students with their scientific research, thus contributing to their training as doctors and young researchers.

Prior and after obtaining my PhD title, I have written, presented and published scientific papers both in the country and abroad, these pappers being written in romanian, as well as english/ being written in romanian, and english. In the past 10 years I have published 9 books with CNCSIS recognised publishers, including 7 as senior author. I collaborated as an author or co-author of a number of chapters from four books

published in Romania (Romanian Academy, University Press) and abroad (Croatia). These books, along with booklets, have contributed to the training of students and professionals in the following fields: Internal Medicine, Cardiology, and Family Medicine. During exchanges between universities, the books to which I have contributed, reached the documentation funds of the libraries from Universities of Medicine in Romania. The scientific achievements materialized in published articles are available in databases accessible online.

Due to the fact that in 1999 I became a MD in cardiology with expertise in interventional cardiology, my activity as a clinical practitioner has been centered in the field of cardiology, particularly interventional cardiology.

Starting with the occlusive pathology of the abdominal aorta, a theme that I approached from the clinical and interventional diagnosis point of view in my PhD thesis, I continued with lengthening the field of interventional diagnosis and treatment to coronary artery atherosclerosis.

After more than a decade of activity in the systemic arterial circulation area, I considered necessary a translation of expertise in the field of pulmonary arterial circulation, namely pulmonary hypertension.

The Habilitation thesis represents my personal areas of interest in scientific research, namely non-invasive and invasive cardiology alongside the vast field of interdisciplinarity. The issues addressed in this thesis have been undertaken with consideration for the European approach to academic development as/and they have been documented by a list of scientific publications with a particular significance in terms of relevance in the field. These aspects support the continuity of personal concern for scientific research in the wide field of Cardiology, however, with a focus on the common and tangential areas between the clinical and the interventional component.

The thesis is divided into two sections. The first section includes the presentation of professional, scientific and academic accomplishments. The second section presents the plan for professional, scientific and academic development, with a prior submission of motivation and approach, and I am talking about an approach that is focused on the two previously mentioned research areas in Cardiology (non-invasive and invasive) with areas of interest in systemic hypertension and pulmonary hypertension, two domains that I have been successfully practicing as an MD in cardiology since 1999.

The originality of the habilitation thesis is given by addressing the tangential research coordinates with an invasive and non-invasive approach of a partially convergent etiopathogenetic field expressed by systemic hypertension and pulmonary hypertension.

The research activity presented in the first part of the habilitation thesis is structured in the chapter Scientific Achievements. Here, after starting with an approach

to the broad range of clinical cardiology, the scientific work progressively follows the field of systemic hypertension. The second direction of my scientific research grants the same interest to invasive cardiology, with focus on pulmonary hypertension and interventional activity. In the same chapter, the third line of research is addressed to the expanded area of interdisciplinary research: cardiology- cardiovascular surgery-infectious disease, cardiology-infectious disease,-the pharmacokinetics of drugs, cardiology-hematology-oncology, cardiology-internal medicine-infectious diseases-alternative and complementary medicine-clinical pharmacology, cardiology-infectious diseases-laboratory medicine-epidemiology.

The national and international recognition of my scientific research is supported by my involvement in ongoing and future research projects as a director and also member of a number of associations of researchers. Two of the ongoing projects are addressing systemic hypertension, in terms of biochemical and genetic mechanisms responsible for the activation of neurohormonal imbalance, thus generating profiles of hypertension with very high cardiovascular risk.

Another research project approached the possibility of transferring knowledge from an academic level to potential economic partners who have shown interest in supporting research performance. Our main objective was represented by the long-term economic enhancement of our private partner. In this regard, I conducted a multidisciplinary team in the 2016 national research competition, where we submitted a project focused on implementing a multi-modal diagnosis center of vascular and interstitial lung diseases. Taking this context into consideration while also aiming to further develop my professional career, starting with 2017 I intend to include and contribute to the improvement of a serie of innovative methods of interventional treatment in chronic thromboembolic pulmonary hypertension, namely ballon pulmonary angioplasty.

My career development plans will maintain the scientific and academic directions outlined in the past 25 years of activity, respectively non-invasive cardiology, invasive cardiology with a focus on systemic hypertension and pulmonary hypertension, ischemic heart disease and last but not least interdisciplinarity.

The second part of the habilitation thesis is dedicated to my personal activity in the field of learning / education, research and practical applications. Here, my (pre) / (re) defined role in the medical education system and especially in UMF Tg Mures is subsumed. The aforementioned evolution is a necessary phase for accumulation and completion of a professional and didactic profile in the academic field and medical practice in Targu Mures. Thus a new stage in personal growth, based on the career development and refinement in opened, in which the three components represented by – research/teaching/practical applications – become an integrative constant of future activity.

I intend to lead the main areas of personal interest (Cardiology non-invasive and invasive Interdisciplinary) that I have mentioned in the first part of my thesis, towards a qualitative expansion as well defined medical specializations in which I could promote excellence in approach and application, while redefining the synergies between these fields and multidimensional approach to medical casework as well.

Within the academic development plan, the proposals for development and consolidation of educational activities are oriented towards a modern medical education, ment to strengthen the three major areas of training: knowledge, skills and abilities.

While preserving the tradition of medical education, I added a new focus through the application of a complete and accurate curricular reform. Through these means I intend to introduce new and modern method of education, with an objective of academic training of medical students, in order to enable them to perform internationally in an era of continous globalization.