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NOI PERSPECTIVE IN PREDICȚIA, PREVENȚIA ȘI  
TRATAMENTUL NAȘTERII PREMATURE

*CONFERENȚIAR UNIVERSITAR DR. NEACȘU ADRIAN*

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## Thesis Summary

The habilitation thesis entitled **“NEW PERSPECTIVES IN THE PREDICTION, PREVENTION AND TREATMENT OF PRETERM BIRTH”** includes three sections according to the recommendations of CNATDCU and according to article 300 part 2 of National Education Law no. 1/2011.

In SECTION I of the habilitation thesis I have presented the didactical activity and the professional one, following all the stages that I have covered in my 21 year of academic career. I have detailed the clinical activity, the didactical activity, the research activity, as well as attending to scientific manifestations, as well as responsibilities arising from the current activity as Head of Obstetric Gynecology Department at Titan Hospital and later at Ilfov County Emergency Clinical Hospital, and from 2014 as Discipline Head of Obstetric Gynecology at the Department of Specific Disciplines at the Faculty of Midwives and Medical Assistance within the "Carol Davila" University of Medicine and Pharmacy from Bucharest.

I have defended my PhD thesis in 2001 entitled **“INVOLVEMENT OF LOWER GENITAL INFECTIONS IN THE PATHOGENESIS OF PRETERM BIRTH”**, scientific coordinator Prof Dr N. Crişan of the "Carol Davila" University of Medicine and Pharmacy from Bucharest. The research activity from the doctoral studies whereto is added the current professional training, the didactic and scientific activity, the specialized editorial activity, subsequent, laid the foundations of the habilitation thesis.

I started to deepen and develop a field of scientific and clinical activity, which in that moment was in an incipient stage, that of the prediction and prevention of preterm labor and birth. The preterm birth is considered to represent the consequence of independent changes in the cervix and uterus. During the labor for the on term birth, as well as the preterm birth, the cervix modifies from the firm, long and closed stage into a soft and foldable tissue through a biochemical process characterized by remodeling of the extracellular matrix and an increase into the tissue concentrations of inflammatory mediators; The preterm labor is associated with the preterm activation of the cytokines issuance in the decidua (mucosal lining of the uterus) and cervix. Interleukins IL-1 beta, IL-6, IL-8 and the alfa tumoral necrosis factor increase the production and the activation of matrix metalloproteinase (MMP-1, MMP-3 and MMP-9) and of cathepsin S, which digests collagen from the extracellular matrix of the cervix, leading to dilatation and softening of the cervix. These cytokines are released by leukocytes into the myometrium, leading to the production of prostaglandins and oxytocin, which stimulate uterine contractions. Therefore, ultrasound cervical shortening is considered to represent premature cervical softening. The

obstetrics approach of the aspects regarding the preterm birth are based on the prognosis that the obstetrician expects in terms of the survival of premature infant as well as the therapeutic variants that will be followed. And not only is the survival important, equally the quality of life of children with very low birth weight, immature, they are significantly affected both physically and intellectually.

The concern for this type of pathology naturally followed a long experience accumulated in the period 2000-2012 when I have conducted the obstetric activity in Ilfov County, being the head of the obstetrics clinical department of the Ilfov County Emergency Clinical Hospital. The professional activity was noted by participating in specialized courses (6 courses) in laparoscopy, maternal fetal medicine, obstetric ultrasound and health management. In 2000 I became the Head of Obstetrics and Gynecology Department carrying out besides the current emergency medical activity also didactical activity and seminarization with medical students as well as with resident physicians in obstetrician gynecology and family medicine. My editorial activity it is noted by four monographs, co-author of 3 monographs, and numerous chapters in miscellaneous monographs, main author and co-author of over twenty-six articles indexed in ISI web of science, and over thirty-five articles indexed in BDI. All of these shall be presented within the habilitation thesis. The debut in the university career was in 1997 as Lecturer, leading the Obstetrics and Gynecology Department within the Titan Clinical Hospital of Bucharest, following all the stages until the position of Associate Professor. Throughout this career I have attended numerous congresses and conferences acting as Lector, moderator and with oral and poster presentations.

In **SECTION II** I have detailed the scientific development and university career projects which were based on my accumulated professional experience, on the research projects in which I participated, as well as on the laparoscopy, obstetric ultrasound courses, and collaboration with ultrasonography and maternal and fetal medicine centers. The academic activity it is materialized by the training of resident physicians, PhD students, for the accumulation of medical knowledge, and by continuous medical training. With the help of the UMF Carol Davila, of the scientific societies and of College of Physicians, this will be based on the organization of postgraduate courses, workshops, practical demonstrations of the prediction and therapy of preterm birth and maternal and fetal medicine for students, residents. I shall continue to improve my scientific and educational activity by participating in international and national conferences. I shall disseminate the amassed information until now towards the student, residents and general practitioners.

Future research and professional guidelines will be extended to the prediction and prevention of preterm birth and maternal and fetal medicine. The new laboratory methods as well as the discovery of new biochemical markers are currently gaining new meanings not only in the prediction and prevention of preterm birth but also in the intersection of the pathophysiological chains responsible

for triggering the labor. Considering the fact that there is an increase in the incidence of prematurity in women over 30 years who want a pregnancy, the new techniques of diagnosis, causal therapy, prenatal diagnosis, allow us to give hope to these patients in terms of getting an on time pregnancy, without the complications of prematurity. The formation of multidisciplinary teams, gynecologist, obstetrician, ultrasonographer, psychologist, geneticist, laboratory physician and neonatologist, involving young physicians, shall represent an objective for future research topics, access to educational and research projects. This collaboration shall allow the patients with problems to have access to medical information and subsequently to the best medical assistance and treatment.

**SECTION III** contains the most important bibliographic references used in the presentation of this thesis in the text introduction sequence.