STANDPOINT

by

Assoc. Prof. Dr. Mila Bogdanova Boyadzhieva, MD, PhD Endocrinologist, Second Department of Internal Medicine, Medical University "Prof. Dr. P. Stoyanov "- Varna and Clinic of Endocrinology, University Hospital" St. Marina ", Varna. Appointed to prepare an opinion as a member of the scientific jury according to Order № P-109-581 / 17.12.2021 of the Rector of MU-Varna and on the basis of Protocol №1 / 23.12.2021.

of

the dissertation of Dr. Evelina Boykova Zlatanova, on " Metabolic profile of patients with hormonally inactive adrenal adenomas " for the award of educational and scientific degree "Doctor of Phylosophy" in professional field 7.1 Medicine, in the scientific specialty "Endocrinology".

Scientific adviser: Assoc. Prof, Mira Siderova Ph.D.

Dr. Evelina Zlatanova graduated in medicine in 2011 at MU "Prof. Dr. Paraskev Stoyanov "- Varna with" Golden Hippocrates ". Since 2011 she has been working at the Clinic of Endocrinology of the University Hospital" St. Marina "- Varna. Since 2013 she has been a full-time assistant in the Endocrinology and Metabolic Diseases ES at the Second Department of Internal Medicine at MU-Varna. She has a degree in endocrinology and metabolic diseases and a master's degree in health management.

Improvements in imaging methods and their increasing use have led to the detection of unsuspected pathological lesions, respectively. In this sense, one of the most common, incidentally discovered by imaging techniques are adrenal tumor masses - incidentalomas. According to literature data, they affect about 2% of the general population, and only up to 10% of patients with adrenal incidents have autonomic hormone secretion. This identifies adrenal hormonally inactive adrenal adenomas as a common pathology in clinical practice that requires a multidisciplinary approach to effective follow-up and treatment. I believe that the topic of the dissertation is relevant.

The dissertation presented by Dr. Evelina Boykova Zlatanova contains 153 standard typewritten pages and is illustrated with 31 tables, 47 figures and 1 appendix. The content is appropriately structured and is presented by: introduction, literature review, purpose and tasks, material and methods, results and discussion, final remarks, conclusion, contributions, scientific publications and participations, used literature and applications. The literature includes 250 titles, 13 of which are in Cyrillic and 237 in Latin.

The literature review makes a critical and in-depth analysis of comparable publications on the topic of the dissertation.

The aim of the dissertation is detailed - to analyze the diagnostic, metabolic, biochemical and hormonal aspects of patients with hormonally inactive adrenal adenomas. To make an up-to-date assessment of some additional markers related to metabolic syndrome, non-alcoholic steatosis and cardiovascular risk in patients with hormonally inactive adrenal adenomas who have undergone an University endocrinology specialized Clinic.

The defined 6 tasks are analytical, concrete and follow logically to meet the goal.

The selection of the participants, the clinical, laboratory and instrumental methods, as well as the functional examination are described in detail. The selected statistical methods of analysis are appropriate and allow to process the data and to answer the set tasks.

The obtained results are presented in detail in six subsections. The frequency of the metabolic syndrome (MS) and its individual components, as well as their relationship with the anthropometric data of patients were determined. An association between certain hormonal parameters and age, anthropometric indicators and tumor size was sought. The frequency of metabolic disorders in the included patients was compared with that of the general Bulgarian population. The higher simultaneous prevalence of the five signs of MS among the patients included by Dr. Zlatanova compared to the general Bulgarian population, regardless of whether the groups have concomitant MS, is particularly useful for clinical practice.

Interesting and valuable are the results of the calculation of the fatty liver index (FLI), which show that nearly half of the studied patients (46.7%) have FLI≥ 60, and only 20.9% have a normal FLI <30. Also of interest is the found evening cortisol above 150 nmol / L in 40% of the subjects, as well as the established direct correlation between the size of the adenoma and free cortisol in the urine ($p = 0.03$ $r = 0.014$). Frequent prevalence of glycemic disorders has been found among subjects. There was also an increased cardiovascular risk, judged by the higher BMI and deteriorating metabolic parameters (higher blood glucose, triglycerides and low HDL) compared to the general population. As a recommendation for future research, metabolic and hormonal parameters could be compared between patients with adrenal hormone-non-secretory adenomas with comparable sex, age and BMI control patients without adrenal hormone-non-secretory adenomas.

Dr. Zlatanova has made an analytical discussion and comparison of her own results with the data published so far in the world literature after each subsection, which makes their commenting easier to understand.

I agree with the contributions that Dr. Zlatanova determines.

The abstract meets the requirements of the law for the development of academic staff.

I have no significant critical remarks, but rather those of a recommendatory nature for future research.

In connection with the topic of the dissertation, Dr. Zlatanova has made 3 full-text publications in Bulgarian journals and has indicated 4 participations in congresses.

I consider that the dissertation of Dr. Evelina Boykova Zlatanova presented to me for my opinion meets the criteria for awarding the educational and scientific degree "Doctor of Philosophy". The presented publications meet the requirements.

All this, as well as the clinical benefits of scientific research, give me reason to suggest to the members of the scientific jury to vote positively for the award of the scientific degree "Doctor of Philosophy" to Dr. Evelina Boykova Zlatanova.

10.02.2022

Assoc. Prof. Mila Boyadzhieva, PhD