

STATEMENT

by Prof. Dr. Nikola Yordanov Kolev, PhD, BSc
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of the dissertation
**"Transabdominal laparoscopic treatment of
adrenal tumors in adults and children"**

by: Dr. Stefan Blagovestov Mihaylov

for awarding the scientific and educational degree "Doctor" in
the scientific specialty "General Surgery"

Scientific supervisor: Assoc. Prof. Dr. Vesselin Marinov Marinov , PhD, BSc

The dissertation work has been discussed and approved for official public defense by the Department Council of the Department of General and Operative Surgery, Medical University - Varna with a report of the Department Council, entry No. 7 / 27.06.2025 and in accordance with Order R-109-302/14.07.2025 of the Rector of the Medical University - Varna.

The topic of the dissertation is contemporary and disputable. Adrenal tumors represent a significant medical problem due to their heterogeneous clinical presentation – from incidentally discovered incidentalomas to hormonally active or malignant formations. With the progress of imaging diagnostics and endocrinology, the frequency of diagnosis of these neoplasms is increasing, which emphasizes the need to improve surgical approaches. One of the modern methods of surgical treatment is transabdominal laparoscopic adrenalectomy, which is established as the gold standard in minimally invasive techniques. Its advantages and results have been examined in a number of studies, but few of them include a comprehensive analysis combining the specific features of adults and children. This determines the relevance of the present study, aimed at systematically evaluating the effectiveness, safety and advantages of transabdominal laparoscopic treatment of adrenal tumors, as well as the popularization of this approach in Bulgarian clinical practice.

The dissertation is presented in a volume of 220 pages and contains 38 tables and 50 figures.

The presentation of **the literature review** has a very good cognitive value in an optimal volume and is focused on the following topics: Historical overview; Anatomy and topography of the adrenal gland; Physiology and pathophysiology; Diseases of the adrenal gland, subject to surgical treatment; Indications for adrenalectomy; Evolution of surgical treatment; Application in adults; Application in the pediatric population; Complications; The situation in Bulgaria; Critical analysis of the literature.

The dissertation sets a clearly formulated **Aim**, namely: The goal of the dissertation is to analyze the results of transabdominal laparoscopic adrenalectomy in adults and children. To accomplish this goal, the following tasks must be completed:

1. To analyze the clinical characteristics of patients
2. To analyze the anatomical features.
3. To study early postoperative outcomes.
4. To study late postoperative outcomes.
5. To study the influence of endocrine diseases on intraoperative outcomes.
6. To study the influence of endocrine diseases on postoperative complications.

Dr. Mihaylov's study is retrospective, monocentric. It was implemented in the structures of the University Hospital "St. Marina" - Varna and covers the period from 01.01.2008 to 31.12.2024. The patient population includes **82 patients**.

To solve the tasks set, Dr. Mihaylov applied a number of **methods** on the patients included in his study, which emphasizes the scientific merits of the work. These include clinical, imaging, laparoscopic and statistical methods.

The results are presented comprehensively, in detail illustrated with graphs, tables and figures. Dr. Mihaylov examined demographic and clinical characteristics of the patients, as well as their intraoperative indicators - operative time; intraoperative hemodynamics; blood loss; vascular anomalies; conversions; complications. Analyzes also postoperative indicators such as time to verticalization; need for postoperative analgesia; hospital stay. Of great importance is the comparative analysis between various clinical, hormonal and intra-

and postoperative indicators. Of great clinical importance is the examination of the efficacy in analyzing the postoperative hormonal profile.

The discussion shows the author's attitude to the researched problem and the ability of Dr. Mihaylov to analyze his own obtained results. The conclusion is logical, the analysis confirms the effectiveness and applicability of the laparoscopic transabdominal approach in the treatment of adrenal tumors in a broad group of patients, including those with increased anesthetic risk, obesity, and large lesions. The data highlight the need for an individualized approach to preoperative evaluation and planning, with a view to optimizing safety and surgical outcome.

The conclusions are 6 and they arise from the results obtained - they reliably summarize the results of the study.

As **contributions** of the dissertation, I can acknowledge:

- A detailed literature analysis of laparoscopic methods for treating adrenal tumors.
- A modern and statistically reliable study of the application of transabdominal Laparoscopic access as a method for treating adrenal tumors.
- For the first time in Bulgaria, an analysis of the results of the transabdominal laparoscopic adrenalectomy in adults and children.
- transabdominal laparoscopy are compared adrenalectomy for various pathological and functional processes of the adrenal glands.
- A comparison of transabdominal laparoscopic adrenalectomy in Bulgaria with those in Europe and the world.
- A diagnostic and treatment algorithm has been developed to serve both preoperative assessment and postoperative follow-up of patients.

Dr. Stefan Mihaylov is a competent and promising pediatric surgery resident. His dissertation work is of high scientific and practical value, which contributes to proving the role of the transabdominal laparoscopic approach in the minimally invasive surgical treatment of adrenal tumors. This gives me the right to propose to the highly respected Scientific Jury to award Dr. Stefan Mihaylov the educational and scientific degree, DOCTOR".

Varna
04.08.2025

Prof. Dr. Nikola Kolev, PhD, Rec

Заличено на основание чл. 5,
§1, б. „В“ от Регламент (ЕС)
2016/679