

To the Doctoral School
According to Order No. R-109-172 / 1.03.2023
of the Rector of MU – Varna

REVIEW

of the dissertation "Pelvic and Intestinal Abscesses" by Dr. Hristo Yuri Nikov, Doctoral student at the Department of Surgical Diseases, MU - Varna for the award of an educational and scientific degree "Doctor" in the scientific specialty of Surgery - 03.01.37.

**Reviewer: Professor Dr. Rossen Evgeniev Madjov, MD, PhD, DSc
Head of the Department of Surgical Diseases - Medical University - Varna.**

The dissertation work of Dr. Hristo Nikov addresses a serious and important clinical problem - intra-abdominal abscesses. Abdominal abscesses are a common surgical problem known to medicine since ancient times, but they continue to pose a challenge to surgical practice in terms of diagnostic and therapeutic algorithm of behavior. Late diagnosis and incorrect treatment lead to unsatisfactory results. The associated pathophysiological consequences and accompanying diseases are significant risk factors and lead to prolonged hospitalization, postoperative complications, and increased mortality, and thus negative socio-economic consequences. Early precise diagnosis, adequate control of the source, and effective antimicrobial therapy are the important key moments for optimizing the results of the healing process. In recent years, the development of imaging diagnostics and minimally invasive methods are important additions to modernized surgical approaches in the overall diagnostic and therapeutic process. An assessment of the diagnostic and therapeutic value of each method, consideration of the ratio of benefits/risks/results, and quality of life after each procedure is necessary while adhering to clear indications and criteria.

The dissertation is written on 129 standard pages. The bibliography includes 143 titles (mostly from the last 10 years), of which 25 are in Cyrillic and 118 in Latin script. The visualization is done with 40 tables and 18 figures.

The literature review covers: historical data, definition, classifications, pathophysiology, and pathogenesis of intra-abdominal abscesses; diagnosis and differential diagnosis; types of abscesses; therapeutic algorithm - source control and adequacy of control, antimicrobial therapy, and prognosis.

The author is well-versed in the problem - many leading authors and schools dealing with the problems of intra-abdominal abscesses are cited.

The author's GOAL is to:

"To study, analyze, classify, and standardize the diagnosis, preoperative approach, and treatment of patients with pelvic and intestinal abscesses, with a view to optimizing the treatment outcome, reducing complications, rehospitalizations, and achieving a better quality of life."

The overall objective is well formulated in relation to the entire dissertation. To achieve the main objective, the author sets the following 5 tasks:

1. Retrospective analysis and diagnostic distribution of patients with pelvic and intestinal abscesses hospitalized in the Second Surgery Clinic for the period 2010-2020.
2. Descriptive and comparative analysis between diagnostic-therapeutic methods in terms of effectiveness, combinability, radicality, risks, benefits, and hospitalization period.
3. Evaluation of risk factors, degree of impairment of the general condition at the time of diagnosis, complications, and accompanying diseases on the final outcome, hospitalization period, and need for intensive care.
4. Analysis of postoperative complications and patient survival.
5. Creation of a diagnostic-therapeutic algorithm.

The tasks are well formulated and the development of the dissertation follows their execution.

The object of the study are 160 patients hospitalized at the Second Clinic of Surgery at University Hospital "St. Marina" in Varna, with clinical data of pelvic and intestinal abscesses during the period 2010-2020. Depending on the anatomical localization, the affected abdominal organ, and the etiology of the disease, patients are divided into several diagnostic groups: appendiceal origin - 36%; small abscesses - 20%; postoperative - 13.8%; abscesses due to obstructive tumor with perforation - 10.6% (right colon - 7 and left colon - 10); abscesses from complicated diverticulosis - 9.4%; associated with Crohn's disease - 5%. The clinical picture is heterogeneous and variable, depending on the localization, degree of lesion, and stage of the disease.

The use of ultrasound as the first method of choice with subsequent CT is the gold standard for an accurate diagnosis. A multidisciplinary approach, timely and adequate control over the source, appropriate antimicrobial therapy, dynamic clinical monitoring, and reassessment of results are key moments in terms of effective treatment of patients with intra-abdominal abscesses.

Clinical, laboratory, imaging, instrumental, and statistical methods were used, as well as minimally invasive methods for diagnosis, treatment, and source control.

As a result of careful analysis of the literature data and interpretation of their own clinical data, the author and the clinic team propose and implement a diagnostic-therapeutic algorithm for patients with pelvic and intestinal abscesses. The therapeutic algorithm for treating complicated intra-abdominal infections, such as intestinal and small bowel abscesses, requires a "step-by-step" approach. The main points are source control and effective antimicrobial therapy. Source control includes all measures and actions aimed at eliminating the focus of infection, preventing ongoing contamination, and correcting anatomical disturbances to restore physiological functions.

The timing and adequacy of control are considered the most important criteria due to the negative consequences in cases of delayed treatment or selection of an inappropriate method. The choice of the appropriate method (percutaneous drainage or surgical intervention) requires an exact assessment and an individualized approach. Surgical control (minimally invasive intervention or classic open surgery) is undoubtedly the most important and determining factor for optimizing the final outcome.

13% of the cases resulted in a fatal outcome. The etiological cause and type of affected organ, the time from the onset of symptoms to the diagnosis and the implementation of adequate control on the source, the patient's overall condition, and accompanying diseases have an impact on the outcome.

The conclusions - a total of seven, are well formulated and correspond to achieving the main goal and tasks set by the doctoral student.

The contributions made by the author at the end of the dissertation work have a scientific-applied character and are the result of the personal activity of the author, as well as of the team of the Second Clinic of Surgery at University Hospital "St. Marina" - Varna.

The abstract is very well organized and fully reflects the essence of the dissertation work. The excellent stylistic and design layout, as well as the printing quality make very good impression.

Dr. Hristo Nikov graduated Medicine at Medical University of Varna in 2017. Since 2018, he has been a surgical resident at the Second Surgery Clinic, University Hospital "St. Marina" in Varna. Since November 2020, he has been a regular PhD student at the Department of Surgical Diseases, Medical University of Varna. He speaks English and German and is a member of the Bulgarian Medical Association and the Bulgarian Surgical Society. Dr. Nikov has three publications related to his doctoral thesis, one of which he is the first author. He has also participated in poster presentations and co-authored scientific papers at conferences and symposia.

CONCLUSION

The presented dissertation is thorough and addresses contemporary views on the diagnosis, indications, methods, and treatment of surgical patients with small and intestinal abscesses. It develops and implements a diagnostic-therapeutic algorithm for clinical practice. It has results with a contributory character and journalistic manifestations.

Dr. Hr. Nikov fully meets the minimum national requirements according to the LDASRB and its implementation regulations, as well as the regulations of the Medical University of Varna.

All of this gives me the right and the basis to recommend to the members of the Doctoral Committee to give their positive vote and award the educational and scientific degree of "Doctor" to Dr. Hristo Nikov.

Reviewer:

/Prof. Dr. Rossen Madjov, MD, PhD, DSc/

