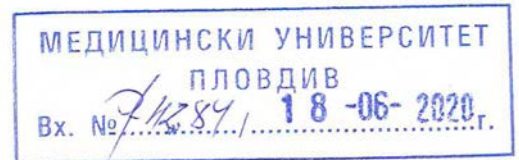


Review



OF THE DISSERTATION

MODERN SURGICAL TREATMENT OF COMPLICATIONS COLORECTAL CANCER

BY DR. EMANUIL MIHAYLOV YORDANOV

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SCIENTIFIC DIRECTOR

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Reviewer

Prof. DR. BORIS EVGENIEV SAKUSHEV DM

Mu Plovdiv, Ministry of Finance, Department of Propedevtics of Surgical Diseases, General Surgery Section

The presented set of materials on paper and electronic medium is in accordance with Articles 10 and 11 of the Law on the Development of Academic Staff in the Republic of Bulgaria, Art. 32 of the PPP for the acquisition of the educational and scientific degree "Doctor" and includes all necessary documents, formed according to the requirements.

Colorectal cancer/CRC/ is a socially significant disease, with the second most frequency of lethality and manifestations in men and others in women. Its complex treatment is a proven, scientifically and practically conditioned reality, in which surgery is a priority. With the adoption of uniform, objective criteria for evaluation of results, the last 10 years have created conditions for the construction of consensus statements/ international database (Cochrane data basis/ and evidence-based surgical guidelines/ on the problem. From their summarized data, the best results show the specialized and profiled surgical centers with the highest number of performed resections and anastomosis, both by the individual surgeon and several surgical teams.

The problem of diagnosis and treatment of complex colorectal cancer /CRC/ in modern emergency abdominal oncosurgery is relevant in medical, social and economic terms, which is why the studies of Dr. Emmanuel Yordanov deserve a positive assessment. On this issue, single studies have been published in Bulgaria so far. Therefore, I believe that Dr. Yordanov's dissertation has a research-clinical focus and a scientific and generalisation nature.

The dissertation work is structured correctly and is presented on 150 pages, containing 13 figures, 15 tables, 21 pictures and 4 schemes, which is enough in volume. The literary reference includes 254 references, of which 9 are in Cyrillic and 245 in Latin. All Cyrillic titles are from Bulgarian authors. The majority of the bibliography contains titles from the last 5 years – 123/48.42%/, while 91/35.82%/ from the period 2000 to 2014 and only 40/15.74:/ are from the last century. The style is professional, the language is rich and accurate.

The chapter distribution is as follows:

Introduction – 2 p.

Literary review – 46 pp.

Purpose and Tasks – 2 p.

Material and Methods – 12 p.

Results - Own surveys – 13 p.

Discussion – 33 p.

Conclusions – 2 p. 1.

Scientific contributions – 2 p.

Scientific publications in connection with the dissertation work /additional attached/– 1 p.

Bibliography – 26 p.

The literary review is in-depth, multifaceted and written with an aspiration for inclusiveness. It is composed of 12 sub-headed, consistently looking at the qualitative characteristics of epidemiology, surgical anatomy, oncological features, diagnostic methods, indications and types of operative treatment of colorectal cancer complications. The individual sections of the literary review are presented tightly and completely. The concept of preoperative assessment and analysis of operational risk and risk factors in patients with complicated CRC is described clearly and critically. In detail and in a modern light are presented the tactics and principles of treatment of individual types of complications, the approach to the critically ill and operational oncological principles. The completeness of this section suggests the experience and good knowledge of this pathology by the thesis, which is why I consider it appropriate to present her as more. The systematic and preciseness of the exhibition in this part convinces us that Dr. Yordanov is in possession of and applies the most optimal modern concepts for the tactics and treatment of the complicated CRC. Specific guidelines for future studies close to the topic have been identified.

In general, the literary overview is balanced, informative and richly supported with significant and quality publications on the subject, critically selected by the dissertation.

The topicality of the topic has been clearly addressed and justified in support of which the dissertation presents 9 current problems concerning mainly the tactics and treatment of complications CRC.

The purpose of the dissertation is precisely determined and corresponds to the title and possibilities of the study.

The author sets himself 8 executable tasks that are sufficiently clear and precisely formulated.

In the chapter "Material and Methods", the author presents a clinical contingent of 165 patients, with complicated CRC, operated in urgency in the clinic of Thoracic and Abdominal Surgery /II Surgery/ of St. George University Hospital for 5 years period/2014–2018/. Patients were divided into two main groups – the first group of 145 patients treated in the Second Clinic of Surgery, and second, from 20 – at the Clinic of Anesthesiology Resuscitation and Intensive Care.

The material is illustrated with tables, diagrams and photos. On 12 pages, the dissertation systematically and consistently presents documentary, clinical, instrumental, operational and statistical methods. In describing the individual methodologies, the exact selection and high quality of the color photographs are impressed, confirming the mastery of this theme by the dissertation. An original, detailed perioperative protocol is presented, which harmonizes with the purpose of the dissertation and supports the performance of the assigned tasks. Undoubtedly the most significant method – the operative is presented in depth, illustratively and in logical order.

The program products and statistical methods of research are adequate and up-to-date.

In the 13-page chapter "Results", the dissertation presents its studies, showing a significant amount of work for the recruitment, registration, systematization and analysis of statistical and clinical data, consistently presented and illustrated in the two main target groups. The epidemiological data and those characterising the types of complications of the CRC shall be set out. The simultaneous study of the frequency and manifestations of the types of complications in the CRC at different time intervals – the day and night, the days of the week and the seasons is piloted. The creatures of the development - the types of operations, the operational results and the postoperative complications - are presented clearly and understandably in tabular form.

The 35-page chapter "Discussion" begins with a synthesis of the importance of colorectal cancer in medical, economic, social and logistical terms, revealing the broad scientific interests of the dissertation and referring to the modern guidelines and recommendations on the problem. Pioneering internationally is the simultaneous study of the manifestation and frequency of the complicated CRC 24/7, the days of the week and the seasons. Also interesting is the analysis of the "weekend" effect, insomnia, the results of the ongoing many hours of emergency operations.

The validity of the concept of the protocolized preoperative diagnostic and treatment approach, especially for high-risk patients with CRC, is discussed. Consistently and systematically Dr. Yordanov critically presents the most significant manifestations of the leading complications of the CRC – perforation and obstruction, practical methods for their diagnosis, indications and tactics in their urgent surgical treatment, offering original, practically easily applicable comparisons on advantages and disadvantages in tabular form, of the most frequent operations – the obstructive resection of Hartman and the primary resections and anastomosis.

From a clinical point of view, this is the first of its kind study in Bulgaria on tactics in patients in severe condition in the treatment of the obstructive and perforated CRC, which enrich our current knowledge of this problem.

Dr. Yordanov justifies and points out that in the carried out in-depth analysis of the most significant qualitative and quantitative indicators - the results, complications and flighttttes correlate with the values of those according to literary data.

The dissertation recommends the introduction into routine of standardized operational techniques such as right hemicolectomy, Hartman's operation combined, if the condition of the patient allows, with total mesocolic excision.

It is no coincidence that Dr. Yordanov analyzes and discusses in depth the most severe complication – postoperative peritonitis, grading the risk factors for its occurrence and recommending an operational algorithm to eliminate the source of infection

The conclusions are 13 and represent a synthesized type of the the thesis labor. Some of them can be combined in meaning and reduce their total number. The conclusions summarize and focus attention on the modern concept for the diagnosis and treatment of complications CRC, with a focus on standardization of operational techniques and application of oncological principles in emergency colorectal surgery, without endangering the life of the patient.

The scientific contributions of the dissertation work are as follows:

1. A critical modern review of the types and techniques of resections and anastomosis in emergency oncological colorectal surgery in patients with

complicated CRC, based on high-quality studies of recent years, has been carried out.

2. For the first time internationally, a clinical study on the incidence of complications OF CRC has been conducted simultaneously during the day, days of the week and seasons, the results of which would optimise the use of resources and improve the outcome of treatment.

3. Available in a synthesized and practically applicable type the most essential modern methods of diagnosis and urgent surgical treatment of the complications of the CRC.

4. Original algorithms and comparative tables for the diagnosis and treatment of colorectal cancer complications are presented for use in daily practice and the postoperative peritonitis approach.

In connection with the dissertation work are printed 6 publications, 1 in English, all in Bulgarian magazines, 5 multimedia presentations, on scientific forums in the country, all related to the dissertation.

The autofepherate is written according to the requirements and reflects the main results achieved in the dissertation.

Critical remarks and recommendations:

1. Some of the tasks and conclusions may be merged and their number reduced.
2. There are some non-essential grammatical errors.
3. The dissertation work would have an audience interest outside the country.
4. A monograph is appropriate, following a prospective study on the subject of late results.

## L A K T H E N E E

Since 1995, he has been working in the Clinic of Thoracic and Abdominal Surgery of St. George Hospital EAD – Plovdiv. He acquired the specialty "Surgery" in 1999 and a second specialty "Chest Surgery" in 2003. Since 2016 he is an assistant in the Department of Special Surgery of the Medical Faculty at medical university Plovdiv. There are 4 scientific publications, of which 1 in a

foreign language, in which he is the first author. He is a member of the Bulgarian Surgical Society.

The presented thesis is an in-depth scientific study on the problem of diagnosis and urgent operative treatment of complex colorectal cancer in modern aspect and generalized form. The sufficient clinical material and the academic approach of the thesis in the interpretation of clinical material shows that it possesses theoretical knowledge, demonstrates qualities and skills for self-conducting scientific research.

On the basis of these findings, I am confidently giving my positive assessment of the above-mentioned dissertation, authorship, achieved results and contributions, and I propose to the honorable scientific jury to award the educational and scientific degree "Doctor" to Dr. Emmanuel Mihaylov Yordanov under the Doctorate program "Surgery".

17.06.2020 Reviewer:

Prof. Dr. Boris E Sakushev, MD

