OPINION

By Prof. Dr. Nikola Vladov, DSc, FACS
Member of the Scientific Jury
According to order N of the Rector of the MU - Varna

On

Dissertation work for the award of a scientific degree "Doctor of Sciences" in the field of: Higher education: 7. Health care and sports; Professional direction 7.1. Medicine; Specialty General Surgery

On the topic: "Effectiveness and safety of laparoscopic colorectal resections." Comparative analysis of outcomes with open surgery. Risk assessment and methods of improvement of perioperative complications'

Author: Associate Professor Vesselin Marinov, Ph.D.

Biographical data.

Associate Professor Dr. Veselin Marinov was born in Sofia in 1973. In 1997, he graduated from the Medical University of Sofia with excellent results. Immediately after graduation, he started specialization in the III Surgical Clinic of Pirogov Medical Center. He acquired a specialty in General Surgery in 2003. Between 2003 and 2005, he worked at Lozenets University Hospital. In 2005, he went for a one-year specialization at the University Clinic in Essen, Germany, where he specialized in liver, pancreatic and transplant surgery. Since 2006, he has been working in the Clinic for Liver-Biliary, Pancreatic and General Surgery of Acibadem City Clinic UMBAL "Tokuda".
In 2012, he defended a dissertation on the topic: "Study on the surgical treatment of chronic pancreatitis and its complications". I participate in the scientific jury and give a positive opinion in the procedure for acquiring the scientific title "Doctor".
Since 2014, he has been working as Head of the Department of Minimally Invasive and Laparoscopic Surgery.
In the same year, he graduated as a Master of Public Administration - Health Management from UNWE - Sofia
Since 2016, he has held the position of "Chief Assistant"
Since 2018, he has been elected and holds the position of Associate Professor at the Department of General and Operative Surgery of the Medical University - Varna.
The same year he was certified as a Console Surgeon for working with the Da Vinci robotic system.
Since 2019, he holds the administrative position of Deputy. Medical Director of Acibadem City Clinic UMBAL "Tokuda".
To date, numerous post-graduate and certification courses have been completed.
He has published a monographic work on "Chronic Pancreatitis". He is the author and co-author of 39 scientific publications in periodicals. There are 82 papers in scientific forums, one chapter of manual.

He is a member of the Bulgarian Surgical Society (BHS), the Bulgarian Association for Minimally Invasive and Robotic Surgery (BAMIRH), the European Association of Endoscopic Surgery (EAES), the International Federation for Surgery of Obesity and Metabolic disorders (IFSO). He is a member of the Board of the Bulgarian Association for Bariatric and Metabolic Surgery.

He speaks English and Russian. Uses German language.

The scientific work presented for assessment entitled "Efficiency and safety of laparoscopic colorectal resections. Comparative analysis of outcomes with open surgery. Risk assessment and methods to reduce perioperative complications" was developed in accordance with the requirements for obtaining the scientific degree "Doctor of Sciences", it is illustrated with 77 figures and 34 tables. The work is written on 205 standard typewritten pages, divided into the following parts:

• Introduction
• Chapter I. Literature review
• Chapter II. Dissertation Research Methodology and Design
• Chapter III. Results
• Chapter IV. Discussion
• Chapter V. Conclusions and contributions
• Literature
• Abbreviations
• List of scientific publications related to the dissertation work

The high frequency of colorectal diseases requiring surgical treatment and the tendency to shift open surgical techniques towards minimally invasive surgery attest to the relevance and timeliness of the dissertation work. Despite the proven benefits of the minimally invasive approach in elective colorectal surgery, there are still controversial moments and a lack of specific guidelines for its application in patients with locally advanced colorectal cancer, complicated diverticulosis, the elderly, comorbid patients, and those with obesity. Against this background, the systematized presentation of possible complications, the presented methods for their reduction in the perioperative period, the preoperative risk assessment based on the obtained results are beneficial for science and clinical practice.

The literary review is presented in 40 pages. It is based on 280 literary sources, of which 30 in Cyrillic and 250 in Latin. It is arranged alphabetically with first Cyrillic authors and is modern and clearly structured. Examines in detail the etiology, pathogenesis of colorectal diseases, methods of diagnosis, laparoscopic dissection approaches in the different localizations of colorectal carcinoma. Results of comparative analyzes of laparoscopic surgery with open in terms of perioperative and distant oncological outcomes are presented. Controversies in the current literature regarding the minimally invasive approach in patients with complicated diverticulosis, locally advanced colorectal cancer, the methods of preoperative assessment of the risk of complications and the occurrence of conversion, the achievement of expertise in the course of training in minimally invasive colorectal resections, the tactics in palliative cases. They define the necessity of the current development and directly correlate with the purpose and tasks of the dissertation work.

In the chapter Methodology and design of the dissertation study, written on 75 pages, the purpose is presented:
To perform a comparative analysis of perioperative indicators between groups of patients with elective laparoscopic colorectal resections, open colorectal resections, converted patients, evaluating the effectiveness and safety of the laparoscopic approach, defining personal criteria for the surgical approach, creating a model for predicting the risk of complications and conversion, defining methods for reduction of perioperative complications.
To achieve this goal, the author has defined 6 tasks.
All clinical, paraclinical, imaging, endoscopic and invasive research methods are presented. Statistical analysis was performed using 13 methods.
The presented material is entirely own - 285 patients with colorectal resections performed by Associate Professor Marinov over a 12-year period with clearly defined criteria for inclusion in the study. Patients were divided into 3 groups - laparoscopic colorectal resections - 152, open - 102, converted patients - 31. The groups subject to comparative analysis are large enough to obtain statistical reliability of the results, which have clinical and prognostic value.
The chapter describes the dissection tactics in the palaproscopic approach in different localizations of colorectal cancer. Based on own experience, some approaches are motivated such as: lateral dissection approach in left laparoscopic colectomies and complicated diverticulosis of the sigmoid colon, selective mobilization of the left flexure of the large bowel in the course of resection of the sigmoid and rectum, selective approach to the inferior mesenteric vessels with different volume of lymphatic dissection, depending on the localization of CRC, standard reinforcement of the anastomosis in resection of the sigmoid colon and proximal rectum, protective ileostomy in cases of low anterior rectal resection with TME. Analyzed the sensitivity and specificity of contrast-enhanced CT to assess the local status of colon carcinoma. The learning curve in laparoscopic colorectal surgery was investigated. Initial experience in robotic colorectal resections is shared.

Chapter Results. It is presented on 36 pages. The results obtained after statistical processing are presented and analyzed. The significant advantage of the laparoscopic approach in almost all investigated parameters compared to open surgery is found. Shorter operative time and more lymph nodes extracted in the minimally invasive surgeries were also reported. Perioperative outcomes also show statistically fewer complications in laparoscopic colorectal resections. There was no difference in perioperative mortality, which is low in all three studied groups. Worse perioperative outcomes were demonstrated in the converted patients compared to the open group of patients. It is proven that factors such as male sex, comorbidity, locally advanced CRC, advanced age, surgeon's experience are related to the development of perioperative complications and risk of conversion. The research done on the learning curve in laparoscopic resections shows that the period to reach a "plateau" and expertise is long and at least 38 operations are required. The low informativeness of contrast-enhanced CT for assessing the local status of colon carcinoma is proven. The results are integrated into a model for the prediction of the risk of conversion and perioperative complications.

Chapter Discussion. It is presented on 18 pages. The results of the study with data published in the literature are discussed. This section is structured as an

independent chapter and follows the sequence of the literature review. The author critically analyzes the obtained results with data published by other authors. Comparative analysis shows that the results in the present study are comparable to some of the best reported in the literature regarding perioperative mortality, rates of infectious complications in laparoscopic resections, anastomotic insufficiency after left resections. It proves the effectiveness of the laparoscopic approach in palliative colon resections.

The presented conclusions are well formulated, correspond to the results of the research and manage to show the significance of the scientific work.
I categorically accept the contributions indicated by the author, showing the dissertation as relevant and significant for the Bulgarian surgical practice.

Based on the above, knowing the personal qualities and professional development of Ass. Prof. Marinov, I believe that the dissertation "Effectiveness and safety of laparoscopic colorectal resections. Comparative analysis of outcomes with open surgery. Risk assessment and methods to reduce perioperative complications" is developed according to the requirements for awarding the scientific degree "Doctor of Sciences", has its relevance, scientific and practical contributions in the field of colorectal surgery. I am convinced to vote "yes" and recommend to the respected members of the scientific jury to award the scientific degree "Doctor of Sciences" to Ass. Prof. Veselin Marinov.

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05.2024 Prof. Dr. Nikolai Vladev, DSc, FACS