

To the Scientific Secretary of MU-Varna

Review

By Prof. Slavcho Tomov, DM, DSc

Director of the Research Institute – MU-Pleven

External member of the Scientific Jury, appointed by Order No.

P-109-406/25.10.2022 of the Rector of the Medical University – Varna

Regarding: Postdoctoral thesis on

Enhanced Recovery after Surgery (ERAS – Enhanced Recovery After Surgery Protocol) in Gynecologic Surgery

Author: Assoc. Prof. Stanislav Hristov Slavchev, PhD

For awarding the educational and scientific degree Doctor of Science (DSc) in the professional division 7.1. Medicine, scientific specialty Obstetrics and Gynecology, Department of Obstetrics and Gynecology, Medical University – Varna.

I. Thesis structure

The thesis is written on 152 standard pages: literature review – 25 pages; materials and methods – 5 pages; own results and discussion – 55 pages; it is

illustrated with 7 tables and 16 figures. The bibliographic references include 432 sources in Latin. The author has consistently referred to the references in the literature review and in discussing the obtained results. The literature review presents an analysis of the current scientific research regarding the following: impact and importance of preoperative bowel preparation on postoperative recovery and complications; preoperative nutrition and carbohydrate intake; venous thromboembolic prophylaxis; preventive measures to reduce wound infections (antimicrobial prophylaxis, prevention of hypothermia, avoidance of drains and probes and control of perioperative hyperglycemia); perioperative fluid control/targeted infusion therapy; opioid-sparing multimodal postoperative analgesia; the role of perioperative nutrition for enhanced recovery after surgical intervention; measures to prevent postoperative intestinal obstruction; ERAS and minimally invasive surgery; anesthesia management in patients on ERAS protocol; preoperative counseling of patients regarding elements of the ERAS protocol, preparation for surgery, and postoperative recovery; criteria and recommendations for hospital discharge of patients operated on according to the ERAS protocol; ERAS audit and reporting of results. The review summarizes 11 conclusions that substantiate the prospective study design. The thesis aims "To assess the applicability and positive effects of the ERAS protocol in surgical gynecology by auditing and reporting perioperative outcomes." The aim is clearly defined and corresponds to the thesis subject. To achieve his goal, Prof. Slavchev sets himself 11 tasks.

The clinical cohort includes prospectively 121 patients operated on at the Gynecology Clinic at St. Anna Hospital – Varna from July 1st, 2020, to June 30th, 2022. Eighty-three were operated on with open access, 28 – laparoscopically, and 10 with vaginal surgeries. Seventy-eight patients had benign diseases, and 43 were with oncological diagnoses. The specific surgical interventions are described. The

methodology of the measures applied is reported in detail and in chronological order: before, during, and after the surgical intervention. Auditing, control, and reporting perioperative outcomes are based on an ERAS (Enhanced recovery after surgery) system survey template introduced by the postdoctoral researcher himself.

In the section "Own results and discussion", in a continuum of 14 points, the postdoctoral researcher presented the study results in comparison with other studies and raised questions for discussion on specific issues. Thus, he achieves creative solutions to the 11 original tasks.

II. Evaluation of the results

The results presented by Assoc. Prof. Slavchev is convincing and represents a qualitatively new approach to perioperative care and the recovery of patients after gynecologic surgeries. I consider the recommendations for a minimum hospital stay after employing the ERAS protocol and the algorithm for the prevention of wound infections as highly valuable for the daily practice. Reducing the length of hospital stay without increasing the frequency of postoperative complications and rehospitalizations would affect health services costs, the flexibility of hospital bed availability, and the quality of life and patient satisfaction. As a result of the implementation of specific elements of the ERAS protocol on 121 patients, Prof. Slavchev makes the following recommendations for the length of hospital stay:

- In open surgeries for benign pathology –2 days, hospital discharge on the 1st postoperative day;
- In open surgeries for oncological diseases, except for ovarian carcinoma –3 days, hospital discharge on the 2nd postoperative day;
- In open surgeries for ovarian carcinoma –5 days, discharge from hospital on the 4th postoperative day;

- In laparoscopic surgeries without hysterectomy, as well as in vaginal surgeries without vaginal hysterectomy –1 day, hospital discharge on the day of surgery (day 0);
- In laparoscopic surgeries, including hysterectomy, as well as in vaginal hysterectomies – 2 days, hospital discharge on the 1st postoperative day.

The algorithm for limiting wound infections and complications determines the profile of patients with an increased risk for wound infections. In these cases, the postdoc recommends avoiding open access and performing a minimally invasive intervention. In addition, ERAS procedures reducing the risk include: carbohydrate intake before surgery and in the first hours following the surgery in order to reduce postoperative hyperglycemia and insulin resistance. Furthermore, ERAS measures benefit avoidance of catabolic processes, antibiotic prophylaxis, normothermia during surgery, and normovolemia intraoperatively and in the early postoperative period. The last measure also improves intestinal function (recovery of the intestinal passage).

From a practical point of view, one of the merits of this thesis is the determination of the compliance of specific ERAS components in surgical gynecology. Considering the innovative content of this study, it may serve to successfully introduce the ERAS protocol into other gynecology clinics.

III. Conclusions and contribution analysis

The results analysis derived from the tasks and the in-depth discussion generated 11 conclusions, thus achieving the aim of the study. These findings reflect the applicability of the enhanced recovery protocols after surgical intervention in gynecology and represent a qualitatively new approach in perioperative patient care.

The significance of the 8 contributions highlighted by Prof. Slavchev is that they are primarily practical and methodologically focused.

IV. Evaluation of the scientific activity of the postdoctoral researcher

The author presents 10 thesis-related printed publications, of which he is the first author. The relevance of the scientific issues and journals' impact factor indicate a high citation rate and added value to this scientific production.

V. Conclusion

The postdoctoral thesis developed by Assoc. Prof. Stanislav Slavchev, MD, PhD, on "Enhanced Recovery after Surgery (Eras – Enhanced Recovery After Surgery Protocol) in Gynecologic Surgery", is a thorough and valuable scientific research with genuine contributions to daily surgical practice. It represents a qualitatively new concept and philosophy in perioperative care. Quantitatively and qualitatively, the study meets the requirements of the Development of the Academic Staff in the Republic of Bulgaria Act and the Rules and Regulations for its implementation at MU-Varna for obtaining the Doctor of Sciences degree. With this conviction in mind, I recommend to the respected members of the Scientific Jury to vote positively for awarding the scientific degree "Doctor of Sciences" to Assoc. Prof. Stanislav Hristov Slavchev, MD, PhD.

20.11. 2022
PhD

Prof. Slavcho Tomov, MD,

