

To the Scientific Secretary of MU-Varna

REVIEW

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Internal 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. Relevance of the thesis subject

Prof. Slavchev examines one of the current and revolutionary trends in modern gynecologic oncology and surgical gynecology, specifically – enhanced recovery after surgical intervention. After the introduction of minimally invasive techniques into practice and, particularly, of laparoscopy aiming to reduce hospital stay, reduce

costs, and accelerate the return of patients to daily activities, the ERAS protocols in various fields of surgery represent a revolutionary step in this direction. Introduced in 2016 and updated in 2019 in surgical gynecology, these protocols bring a different approach to perioperative patient care and recovery. So far, in Bulgaria, there are no similar research studies and publications on the subject, which determines the innovative nature and relevance of this scientific work.

II. Thesis structure

The thesis is written on 152 standard pages. The ratio between the sections has been complied with: literature review – 25 pages, materials and methods – 5 pages; own results and discussion – 55 pages. The bibliographic references are extremely abounding in sources, including 432 sources correctly cited in the literature review and the discussion of the results. The literature review explores the most recent publications and studies on the various elements of the ERAS protocol in gynecology and comes out with 11 conclusions. The study aims to: "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 reflects 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. Surgical interventions of varying complexity were performed. For each patient, an ERAS (Enhanced recovery after surgery) system survey template was filled out, based on which an audit and control of implementation and compliance of the specific elements of ERAS protocol were carried out.

The research methodology is described in detail, aiming for reproducibility of the obtained results and its implementation into daily practice. The activities in the perioperative period are described in steps: the day before surgery, the day of surgery (before, during, and after surgery), and in the postoperative few days.

The discussion of the results is the most valuable and solid part of the thesis research. These results follow the set 11 tasks through their analysis and apt comparison, along with the interpretation of data from the achievements of modern science, Assoc. Prof. Slavchev derives 11 conclusions meeting the aim of his thesis research.

III. Evaluation of survey results

The research results are presented in a continuum of 14 points and provide solutions to the 11 tasks. I consider the implementation of measures in the following directions as a significant and authentic contribution to perioperative care optimization:

1. Recovery of bowel function (prevention of ileus, subileus, gastroparesis, nausea, vomiting);
2. Opioid-sparing analgesia - analgesia in the early postoperative period;
3. Prevention of wound infections;
4. Normothermia and intraoperative blood loss;
5. Minimally invasive surgery (MIS) and ERAS;
6. ERAS and gynecologic oncology surgeries]
7. Complications]
8. Compliance with the elements of ERAS;
9. Hospital stay.

The ultimate goal of all these measures and procedures is to shorten hospital stay, respectively, to reduce costs, without this being at the expense of increased complications and the frequency of rehospitalizations. Last but not least, in addition to cost savings, one of the goals of this revolutionary approach to perioperative care is to improve the quality of life and patient satisfaction.

The following achievements deserve high praise: the developed and implemented algorithm for the prevention of wound infections, the recommendations for a minimum hospital stay in compliance with the elements of the ERAS protocol, and the compliance assessment of the various components of this protocol. The following elements of the protocol are most readily accepted by patients and the medical team (100% compliance): bowel preparation, targeted infusion therapy, prevention of thromboembolic complications, antibiotic and antiemetic prophylaxis, analgesia, and normothermia. The lowest compliance (66%) is established by avoiding the removal of abdominal drains. Early oral fluid intake, early mobilization and verticalization, and preoperative carbohydrate intake had 99%, 95%, and 92% compliance, respectively.

Based on these results, the postdoctoral fellow draws 11 conclusions complementing his research. Especially valuable is the last conclusion, which gives recommendations for a reduced post-operative hospital stay after various surgical interventions. Of practical significance is the reduction of the minimum hospital stay when observing the ERAS protocol in gynecology: in open surgeries for benign pathology – 2 days; in open surgeries for oncological diseases – 3 days; in open surgeries for cytoreduction and advanced ovarian carcinoma – 4 days, and discharge on the day of surgery in the cases of laparoscopic surgeries without hysterectomy, as well as in vaginal surgeries without vaginal hysterectomy.

IV. Evaluation of contributions

All contributions are applied/practical contributions.

I accept the contributions highlighted by the postdoctoral researcher. In my opinion, their innovative nature deserves a positive assessment.

1. For the first time in Bulgaria, a prospective single-center study of 121 patients was performed on the applicability of the ERAS protocol in surgical gynecology, and perioperative results were reported.
2. The ERAS (Enhanced recovery after surgery) system survey template was introduced into daily practice.
3. The applicability and/or compliance with the specific elements of the ERAS protocol in surgical gynecology was investigated through audit and control.
4. The applicability of the ERAS protocol in gynecologic oncology surgeries was studied.
5. The applicability of the ERAS protocol in minimally invasive gynecologic surgery (laparoscopic and vaginal surgeries) was studied.
6. The frequency of complications after introducing measures and procedures for enhanced recovery after gynecologic surgeries was studied.
7. An "Algorithm for limiting wound infections and complications" was developed and implemented in daily practice.
8. Minimum hospital stay in days after various gynecologic surgeries was calculated – open, laparoscopic (with and without hysterectomy), vaginal (with and without vaginal hysterectomy), gynecologic oncology (including optimal cytoreduction) after applying the elements of the ERAS protocol.

V. Evaluation of the scientific research activity of the postdoctoral fellow

Assoc. Prof. Stanislav Slavchev, MD, PhD, is the author of 10 printed publications related to the thesis subject, reflecting different stages of his scientific research. He meets the requirements of the Medical University – Varna for acquiring the Doctor of Science degree. It is important to note that the postdoc is the first author of these publications, which acknowledges his contribution to the conduct and completion of the research. In addition, Assoc. Prof. Slavchev presented two thesis-related reports at the National congress on obstetrics and gynecology.

VI. 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 an original and up-to-date research meeting 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. The conducted research is a prospective, innovative study and brings actual contributions to the daily practice leading to revolutionary changes in the concept of perioperative care of surgical patients in gynecology. Therefore, I recommend to the esteemed members of the Scientific Jury to vote positively for awarding the scientific degree "Doctor of Sciences" to Assoc. Prof. Stanislav Hristov Slavchev, MD, PhD.

19.11.2022

Prof. Yavor Kornovski, MD, PhD

