

To the Scientific Jury appointed by  
the Rector  
of MU "Prof. Dr. P. Stoyanov", Varna  
by order No. R-109-411/26.10.2022.

## **R E V I E W**

by Prof. Dr. Nikola Yordanov Kolev, MD  
Department of General and Operative Surgery  
Medical University "Prof. Dr. Paraskev Stoyanov" - Varna  
of a dissertation

" INTRAOPERATIVE AND POSTOPERATIVE PAIN MANAGEMENT WITH *TAR-*  
*block* IN PATIENTS WITH LOWER MEDIUM LAPAROTOMY "

of Dr. Atanas Tsankov Zanev

for awarding the scientific and educational degree "Doctor"

in the scientific specialty "Anesthesiology and intensive care" - 03.01.38

Research supervisor: Boryana Naydenova, MD., Ph.D.

The dissertation work was discussed, accepted and directed for defense before a scientific jury by the Academic Council of Department of Anaesthesiology, Emergency, Intensive Medicine at the MU "Prof. Dr. Paraskev Stoyanov", Varna with protocol No. 9/10.10.2022.

Dear colleagues,

I have been designated as a reviewer for the procedure for the holding of a competition for the acquisition of "Doctor of Philosophy" in the field of higher education 7. Health care and sports, professional direction 7.1. Medicine of Dr. Atanas Tsankov Zanev.

Dr. Atanas Tsankov Zanev was born on 14.07.1983. in the town of Silistra. He graduated with a Master's degree in Medicine from the Medical University of Varna in 2008. Acquired a specialty in Anesthesiology and intensive care in 2017. in the Anesthesiology and Intensive Care Clinic at the "St. Marina", Varna. He has 14 years of clinical work experience, part of which was accumulated in emergency medical care structures. Dr. Zanev is also an assistant at the Department of Anesthesiology, Emergency and Intensive Medicine at the Medical University - Varna. Annually conducts a course "Emergencies on the seashore" for medical professionals. He has

experience in training with high-tech simulators with a physiological response model. He conducted short-term specializations and trainings in Italy, the Czech Republic, Spain, Romania. He is a certified instructor and assessor at the Executive Agency "Maritime Administration". He has undergone helicopter water rescue training. There are own and joint scientific publications in national refereed and non-refereed journals, as well as participation in national and international scientific forums. Member in Bulgaria company by enteral and parenteral meal , Company on anesthesiologists in Bulgaria , Bulgaria association for research and treatment on pain , European Society of Anesthesiology , European Society of Regional Anesthesia and Pain Therapy , International Association for the Study of Pain .

The topic of the dissertation work is modern and dissertable. Pain is the most common symptom reported by patients. It is among the main reasons, and perhaps the most common, for patients to seek medical help. The main factor is the loss of productivity and work ability, which leads to significant financial damages for the sufferers, their relatives and society as a whole . Surgical pain is a specific type of "new age" acute pain. It appears with the development of surgery and has a unique characteristic – it is predictable and, accordingly, preventable. That is why it is completely unacceptable in the 21st century to still have patients suffering from pain during and after surgery. Intra- and postoperative analgesia is a major task and challenge for the anesthesiologist. In order to prevent the progression of acute pain to chronic pain, new strategies for pain relief are being developed, new drugs and techniques are being created that are more effective, more economical, easier to perform, safer and with fewer side effects . In the field of abdominal surgery, the most significant, perhaps, is the introduction of the transversus abdominis plane (TAP) block. This technique is poorly represented in everyday practice in Bulgaria. For these reasons, Dr. Zanev chose her.

The discussed problem is of great clinical importance and discusses a current topic with the aim of improving analgesia in the perioperative period.

The dissertation contains a total of 157 pages, illustrated with 39 figures, 49 tables and 8 photographs. The book collection contains 230 titles, 10 of them in Cyrillic, 220 in Latin. The proposed volume and structure correspond to the usual in this field of science.

The presentation of the literature review has a very good cognitive value, is presented in an optimal volume and is focused on the following topics: definition and classification of pain; pathophysiological effects and chronification; assessment tools and scales; modern pharmacological and regional techniques for analgesia; features of pain during lower median laparotomy; definition, classification and application techniques of TAP-block; medicinal solutions and adjuvants used in the technique; contraindications and complications. It makes a good impression that Dr. Zanev analyzes the reasons for the ineffectiveness of analgesia, and also that he compares the TAR-block with other, standard and more frequently applied analgesic techniques in practice. I also consider it valuable that the literature review ends with a generalized and in-depth analysis of the examined sources and the formulation of conclusions.

The dissertation puts clear formulated purpose , namely : yes evaluate effectiveness , applicability and safety on *TAP* - block at intra- and postoperatively pain relief at patients undergoing \_ on surgical interventions using \_ on lower average laparotomy .

To achieve it, six tasks have been set, which fully meet the set goal, namely:

1. To apply ultrasound-guided , bilateral , lateral *TAR* - block immediately preoperatively on patients , of who coming up lower average laparotomy .
2. To form two basic groups patients – with and without *TAR* – block and yes done comparative analysis on some intra - and postoperative hemodynamic indicators at the patients from both groups .
3. To evaluate intra- and postoperatively the ones used analgesics at both groups patients .
4. To explore effectiveness and duration on postoperative pain relief at both groups patients .
5. To determine the frequency and character on some often met side effects and complications related to the painkiller therapy at both groups patients
6. To survey and analyze nature and frequency on occurred complications related to the technique on application on *TAR* - the block , as well as from the one used medicinal combination .

I completely agree with the objective, the formulated tasks are logical and properly structured.

Dr. Zanev's work was carried out in the structures of "Sveta Marina" UMBAL EAD, Varna and was carried out by a team of the Anesthesiology and Intensive Care Clinic at "Sveta Marina" UMBAL EAD, Varna with the main researcher - the dissertation student. The study has two arms – prospective and retrospective. Subjects are patients treated in the clinics of Urology and General Surgery, who underwent a planned surgical intervention with access through a lower median laparotomy. Approved by decision of the Research Ethics Committee (KENI) No. 101/24.03.2021. at the Medical University, Prof. Dr. Paraskev Stoyanov" - Varna. The patient population included 171 patients, divided from a clinical and scientific point of view into two groups: experimental, with previously applied *TAP*-block (82) and control, without *TAP*-block (89). The indications for inclusion and exclusion from the study were clearly formulated and specified in view of the objectives of the study. The patient selection process is described in detail. To solve the set tasks, Dr. Zanev applies a number of methods to the patients included in his study, which emphasizes the scientific merits of the work. Documentary method included; clinical methods; imaging methods; laboratory methods; therapeutic method, including a description of surgical and anesthetic techniques; statistical methods. The execution of the *TAP*-block, the anesthesia protocols, the scales and the criteria used are described in detail and precisely.

I believe that the section Object and methodology of clinical research is sufficiently detailed and fulfills its main task, to make the research repeatable.

The results and discussion are comprehensively presented, detailed and illustrated with graphs, tables and figures. Dr. Zanev examined the demographic and clinical characteristics of the patients. It divides the results of the study into two stages: intraoperative and postoperative. In both he analyzed the parameters of hemodynamics, opiate consumption and the level of analgesia. In the postoperative period, it also monitors the intensity of static and dynamic pain and the use of nonsteroidal anti-inflammatory drugs. It also pays attention to the complications related to the drugs used and the anesthetic technique. The obtained results correspond to all previously set tasks. The discussion shows the author's approach to research problems and Dr. Zanev's ability to analyze his own data, comparing them with the results of other author groups.

There are eight conclusions and they derive from the analysis of the own materials. They credibly summarize the results of the study. I agree with the proposed conclusions as presented.

I acknowledge the four scientific-practical and three scientific-theoretical contributions of the dissertation work, defined by Dr. Zanev.

The bibliography is extensive. A large part of the reviewed sources are from recent years. It makes a good impression that publications from the last two years are included, as well as that Bulgarian sources are examined. Literature sources are presented in an appropriate format and cited accurately.

Dr. Atanas Zanev is a reliable and promising specialist. His dissertation is of high scientific and practical value. The doctoral student, based on his own results, recommends the introduction of TAP-block in the usual clinical practice. This will contribute to the improvement of analgesia in the intra- and postoperative period in patients with lower median laparotomy , the perioperative comfort of patients and, in general, to better patient care.

Everything listed up to here gives me the reason to propose to the highly respected Scientific Jury to award Dr. Atanas Tsankov Zanev the educational and scientific degree "DOCTOR OF PHYLOSOPHY".

Varna

11.11.2022

Prof. Dr. Nikola Kolev, MD

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