REVIEW

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On a dissertation for the award of an educational and scientific degree "Doctor"

Professional direction: 7.1 Medicine, field of higher education 7. Health care and sports

Scientific specialty: Obstetrics and gynecology

Author: Dr. Radko Emanuilov Tocev

Form of the doctoral studies: individual

Scientific organization: Medical University "Prof. Dr. Paraskev Stoyanov" - Varna

Dissertation topic: Robotic myomectomy. A comparative analysis of clinical outcomes compared with abdominal and laparoscopic approaches.

Scientific supervisor: Prof. Dr. Ivan Kostov, MD PhD.

General introduction

The presented set of documents is in accordance with the Regulations for the acquisition of the "Doctor" at the Medical university of Varna.

The dissertation work of Dr. Radko Emanuilov Tocev submitted for official defense is written in the literary Bulgarian language and is presented on 157 pages, illustrated with 35 graphs and 60 tables. The bibliographic reference includes 357 titles, of which 2 are in Bulgarian and 355 are in English. There are 4 publications related to the dissertation work.

Biographical data of the PhD student

Dr. Radko Tocev graduated in 2008 at the Medical University of Sofia. He specialized in "Obstetrics and gynecology" at the Sofia University from 2010 to 2015 at "Sheynovo" hospital and the "St. Sofia" hospital. He has been working as a doctor - specialist in Obstetrics and Gynecology at "St. Sofia" hospital, MBAL "Doverie" and SBALAG "Maichin dom". In 2018, he acquired a certificate to work with the "Da Vinci" robotic system in Strasbourg, France. Since then, he has been practicing robotic surgery in the medical facilities where he works. Meanwhile, Dr. Tocev expands his theoretical and practical skills in the field of operative gynecology and minimally invasive techniques. He took part in a number of international recognized courses in Europe and the USA. He is fluent in English and French.

Actuality of the problem

Uterine leiomyoma, also known as uterine fibroid, is the most common benign gynecological neoplasm with a wide range of prevalence from 5.4% to 77%. It is typical for the age group of 40-50 years with regression in the menopause. Fibroid disease is one of the most frequent reasons for hospitalization for gynecological reasons (1/3 of all hospitalized women). Heterogeneous localization, number and size of fibroids determines the varied clinical picture, often non-specific. Treatment options include medical and surgical approaches. Currently, the well-known conservative therapy is used for symptomatic treatment. The only option for definitive removal of fibroids is the surgical approach. Symptomatic fibroids and asymptomatic fibroids of large size are indicated for surgical treatment.

The introduction of new surgical methods that enable effective and safe treatment with a quick recovery of the patient and their early return to an active lifestyle is of particular relevance. A number of non-invasive surgical interventions, minimally invasive conservative surgical procedures and minimally invasive techniques have been introduced into practice, which are successfully applied to specific types of fibroids. The widespread introduction in recent years of robotic surgery in medicine, and in particular operative gynecology, leads to the increasingly frequent performance of robotic myomectomy.

The analyzes of national benign hysterectomy databases confirm the increase in minimally invasive surgery over the past decade, with a greater increase in robotic-assisted surgery compared to conventional laparoscopy. The robotic

approach has a number of unique advantages for both the patient and the surgeon. In order to make the treatment maximally effective and safe, it is necessary to precisely define the indications for the application of this approach and the criteria for patient selection.

Literature review

The review of the literature sources related to the topic of the dissertation is spread over 37 pages. The analysis has been done thoroughly and precisely, the experience of leading teams, specialists and clinics in this field has been summarized.

The review is structured logically, it examines in detail all aspects of the subject of the fibroid disease. There is an emphasize on modern therapeutic options - conservative and surgical. The doctoral student's desire to find, summarize and analyze the most essential data and novelties, as well as the significant literary material accumulated over the years, is obvious. 357 literary sources were used in the construction of the overview and in general for the entire dissertation, 355 authors in English and 2 authors in Bulgarian were cited. Dr. Tocev shows great details in the subject and creatively appreciates the literary material. I believe that, presented in this way, it has significant cognitive value and can serve as a good basis for the development of the dissertation work.

Purpose and tasks of the dissertation work

The purpose of the dissertation is to analyze the perioperative indicators of robot-assisted myomectomy, to evaluate its clinical significance for the treatment of uterine fibroids and to determine its place in modern gynecological surgery. The implementation is based on 6 specific tasks.

I believe that the main purpose, as well as the set tasks, are precisely and clearly formulated.

Materials and methods

To present the purpose and the tasks, the dissertation uses a retrospective analysis covering 300 patients with performed myomectomy, divided as follows: 100 robot-assisted myomectomies, 100 laparomyomectomies and 100 laparoscopic myomectomies. The clinical contingent is a multicenter one, the study covers a 5-year period. The criteria on which the analysis was performed cover a number of important parameters for the planning of an appropriate operative intervention, such as the age and body mass index of the patient, the size of the uterus and fibroids, the number and location of the fibroids. All set criteria have a significant value for the analysis and fulfillment of the purpose of the dissertation work.

Dr. Tocev used a general palette of modern statistical methods for processing the results: primary data processing, statistical methods: descriptive statistics, hypothesis testing, illustrated with graphic and tabular presentation.

Results and conclusions

Dr. Tocev has carried out a detailed and complete analysis of the obtained results, which he has clearly and correctly illustrated in graphic form. I believe that the economic analysis of the compared types of operative methods adds special value to the dissertation work - a particularly relevant topic for modern medical practice. His conclusions have a high scientific and practical value, clearly defining the indications for robot-assisted myomectomy and the criteria for selecting suitable patients:

- an intramural fibroid up to 7 cm should be removed by laparoscopic myomectomy, given the lowest cost of surgery, short hospital stay and with similar parameters regarding duration of surgery and blood loss.

- in the presence of an intramural fibroid between 7 and 10 cm in size, it should be recommended to perform a robot-assisted myomectomy, due to the availability of a shorter operative time, less blood loss and the possibility of robotic arms for more precise recovery of the fiobroid's bed, despite higher operating equipment costs.

- when there is an intramural fibroid with a size greater than 10 cm abdominal surgery should be performed due to the shorter operative time, less blood loss, fewer peri- and postoperative complications and the possibility of qualitative restoration of the uterine incision.

- cervical fibroids should be operated by robotic myomectomy due to the better intraoperative parameters and the possibility of precise reconstruction of the cervical incision.

- from the study of a group with subserous fibroids, it can be concluded that they can be operated by laparoscopic access due to the relatively close perioperative indicators, but as a more economically advantageous method.

- in patients with a BMI over 35 and an intramural fibroid, surgical treatment using a robotic method is recommended due to the shorter operative time, shorter hospital stay and the presence of fewer peri- and postoperative complications compared to the other two groups.

- the abdominal (open) approach is recommended for fibroids of very large sizes and many in number.

Based on the conclusions drawn, Dr. Tocev clearly defines the place of the robot-assisted myomectomy in the modern surgical treatment of fibroid disease. The contributions of the dissertation work are logically and clearly presented, identified as original and of confirmatory nature. They have high practical value and will enable professional and evidence-based counseling and treatment of patients with uterine fibroids.

Scientific activity

Dr. Tocev has four scientific publications related to the topic of the dissertation, which were published in specialized medical publications in Bulgarian and in English.

Conclusion

I know Dr. Tocev as an excellent and a responsible obstetrician-gynecologist and a colleague who works wonderfully in a team. I welcome and support Dr. Tocev's desire to summarize and analyze his extensive clinical and operative experience in this dissertation.

I believe that the current dissertation work of Dr. Radko Tocev completely meets the scientometric criteria and the rules for academic development of the University of Varna for awarding the educational and scientific degree "doctor". Being an official reviewer, I responsibly and confidently give a positive assessment of the work reviewed by me.

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