

**ATTN: THE CHAIRMAN OF THE SCIENTIFIC
JURY AT THE MEDICAL UNIVERSITY
„PROFESSOR PARASKEV STOYANOV” OF
VARNA**

Concerning:

The participation of Assoc. Prof. Dejan Anakievski, MD, PhD, in the competition promulgated in *State gazette* No 14/February 18, 2022 for tenure of the academic position of “Professor” in the field of higher education No 7 Public health and sports, professional trend No 7.1 Medicine and scientific speciality of Urology, at 0,5 pay-roll office for the needs of the Educational Sector of Urology, Department of Surgery at the Faculty of Medicine of the Medical University “Prof. Paraskev Stoyanov” of Varna and 0,5 pay-roll office for the needs of the Clinic of Urology at St. Marina University Hospital of Varna, according to Order No R-109-165/April 14, 2022 of the Rector of the Medical University “Prof. Paraskev Stoyanov” of Varna, Prof. Valentin Lyubomirov Ignatov, MD, PhD.

PEER REVIEW

by

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According to Protocol No 63/April 5, 2022 of the Faculty Council of the Faculty of Medicine, Order No R-109-165/April 14, 2022 of the Rector of the Medical University of Varna and according to Protocol No 1/May 5, 2022 from the first session of Scientific jury I have been assigned to prepare the present peer review for the only candidate in the competition.

I. CONCISE BIOGRAPHIC AND PROFESSIONAL DATA

Assoc. Prof. Dejan Anakievski, MD, PhD, was born on October 6, 1979 in the town of Delchevo, Republic of North Macedonia. He graduated at Foreign language secondary school in the town of Delchevo in 1998 and of the Medical University “Prof. Paraskev Stoyanov” of Varna in 2004. In 2006-2007, he worked as physician in Medlux Ltd in the city of Varna, in 2007-2013, he was post-graduate student in the St. Marina University Hospital of Varna; in 2013-2015, he worked as urologist in the St. Marina University Hospital of Varna, and until 2017, as assistant of urology. In 2004-2007, he was post-graduate student in surgery, and in 2008-2013, in urology at the Medical University “Prof. Paraskev Stoyanov” of Varna. He attained the academic rank of associate professor in 2017. Since then until now, he works as head of the Clinic of Urology.

Dejan Anakievski, MD, acquired the PhD educational and scientific degree in 2015. The theme of his dissertation work was “Evaluation and validation of some preoperative and postoperative prognostic models in prostate carcinoma”.

During the period between 2009 and 2019, a series of post-graduate courses and short specialization were carried out in our country and abroad: in the Medical University “Prof. Paraskev Stoyanov” of Varna, in the St. Marina University Hospital of Varna, in the Higher Naval School “Nikola Y. Vaptsarov” of Varna, as well as in universities in Egypt, Spain, Czech Republic, Greece, Italy, Germany, the Netherlands, United Kingdom and France.

II. EVALUATION OF CANDIDATE'S RESEARCH ACTIVITY

1. Scientometric indicators

In the competition for tenure of the academic position of "Associate Professor" in 2017, Dejan Anakievski, MD, PhD, participates with a dissertation work for the acquisition of the PhD educational and scientific degree, 21 full-text articles in 12 Bulgarian journals, four full-text articles in four foreign journals as well as with 28 abstracts of reports delivered at scientific forums and published in their proceedings and in Bulgarian journals and with 34 abstracts of reports delivered at scientific forums and published in foreign journals. The total impact factor for the period until 2016 inclusive is 73,708.

In the present competition for tenure of the academic position of "Professor", Assoc. Prof. Dejan Anakievski, MD, PhD, participates with an English language monograph published in 2021, *Recent Advances in Prostate Cancer Surgery*, as well as with six articles published in scientific editions, abstracted and indexed in eminent data-bases with scientific information such as *Web of Science* и *Scopus* and with two articles published in non-abstracted journals with scientific peer reviewing. The total scores according to G6 and G8 parameters amount to 212,5. Besides he has two full-text articles in scientific journals outside the minimal scientometric requirements for the tenure of this academic position (with a total of 22,2 scores).

The total number of the citations received in scientific editions abstracted and indexed in eminent data-bases with scientific information, is six while that of the citations received in non-abstracted journals with scientific peer reviewing is four. The total scores according to D10 and D12 parameters amount to 110.

2. Participation in a national research project

Investigation of the dynamics of the healing processes in periimplanted tissues by means of scintigraphy with ^{99m}Tc-MDP (methylene diphosphonate). Science Fund of the Medical University of Varna, 2016-2018.

3. Adviser of a national research project

Investigation of the dynamics of the healing processes in periimplanted tissues by means of scintigraphy with ^{99m}Tc-MDP (methylene diphosphonate). Science Fund of the Medical University of Varna, 2016-2018.

III. MAIN RESEARCH TRENDS

Assoc. Prof. Dejan Anakievski is urologist and oncologist presenting with notable prestige in our country and abroad. During the last years, his research activity and publication output result from his striving for implementation of the recent novelties in the field of the diagnosis and operative treatment of the patients with severe, socially significant diseases of the urinary and genital system and for improvement of their individual quality of life. 's research activity is determined by his diagnostic and therapeutic work as presenting with undoubted prestige among the colleagues and numerous patients. during the period between 2019 and 2021 are continuously supported by his strong striving for further implementation of the recent novelties in the field of the diagnosis and operative treatment of the patients and for improvement of their individual quality of life. The successes achieved by him are associated with his strenuous work together with his colleagues in the Clinic of Urology at the St. Marina University Hospital of Varna headed by himself and with the collaboration with colleagues from eminent foreign centres.

Several main thematic trends of Assoc. Prof. Dejan Anakievski's research work can be outlined:

- 1) minimally invasive (laparoscopic and robot-assisted) radical surgery in prostate cancer
- 2) contemporary operative methods in patients with urological diseases
- 3) oncological case reports.

IV. MAIN ORIGINAL SCIENTIFIC CONTRIBUTIONS

In Assoc. Prof. Dejan Anakievski's monograph, *„Recent advances in prostate cancer surgery“*, for the first time in our country, not only the newest world achievements in the field of the surgical treatment of the prostate cancer but also the numerous comparative results from his own investigation of the application of the laparoscopic (LRP) and robot-assisted radical prostatectomy (RARP) are systematized. A total of 201 consecutive patients

hospitalized in the Clinic of Urology at St. Marina University Hospital of Varna during the period between 2019 and 2020 are examined.

The author comprehensively analyzes a great number of parameters during the application of LRP and RARP. It deals with patient's age, prostate-specific antigen (PSA) levels, patient's prostate weight, preoperative risks, operative time duration, intraoperative blood loss, localization of seminal vesicle infiltration, postoperative hospital stay, pGleason score-International Society of Urological Pathology (ISUP), anterior support, positive surgical margins, nerve sparing, American Society of Anesthesiologists (ASA) status, pTNM prostate cancer stage, lymph node dissection as well as urinary continence and erectile function recovery. The operative time duration is statistically significantly shorter in LRP.

In the patients with LRP who are with low PSA levels, the prostate weight is statistically significantly lower, the operative time is shorter, the intraoperative blood loss and the number of the lymph node dissected are smaller than in those with high PSA levels, while in the patients with RARP, the age and blood loss are statistically significantly smaller than in those with high PSA levels. The number of the patients presenting with positive surgical margins is statistically significantly smaller after RARP. The stages T2cNoMo, T3aNoMo, and T3bNoMo prevail. Statistically significant differences not only in terms of the localization of seminal vesicle infiltration, positive surgical margins and pGleason score-ISUP, but also between the different levels of the preoperative risk, on the one hand, and patient's age, preoperative PSA levels and number of the lymph node dissected, on the other hand, are observed.

Statistically significant differences between the various preoperative risks in terms of the localization of seminal vesicle infiltration in favour of the absent infiltration and ASA status are established. In both operations, there are statistically significant differences between the low and high pGleason score-ISUP in terms of the various preoperative risks and the various localizations of seminal vesicle infiltration.

There exists a statistically significant difference in favour of RARP concerning the nerve sparing, as the bilateral sparing is more common in RARP. In LRP, a statistically significant association between the preoperative PSA level and the amount of intraoperative blood loss is observed. There is a statistically significant association between LRP and RARP when making use of the anterior support in younger and oldest patients.

There are statistically significant differences between both operations in favour of RARP concerning the number of pads used daily for urinary continence after one month, after three and six months. The relative share of the usage of one pad daily only continuously increases during the postoperative examinations at the first month, at three months, at six months and at twelve months in both operations.

The mean potency scores of the International Index of Erectile Function-5 decrease considerably among the patients undergoing both operations. There exists a statistically significant difference in favour of RARP concerning the potency scores after three months only. The appropriate lymph node dissection and nerve sparing surgery are particularly important. It has been convincingly proved that both operations possess substantial advantages over open radical prostatectomy in advanced prostate cancer patients.

A low frequency of the complicated postoperative urinary tract infections (of 14,5%) during intrarenal retrograde laser surgery accomplished in 324 patients with kidney stones in two specialized university clinics of urology in Varna and in Sofia is established (G8-No 2).

A successful and safe radical nephrectomy is performed in a 11-month old boy presenting with congenital mesoblastic nephroma of classical type located in the upper pole of the left kidney and diagnosed by means of magnetic resonance imaging and histological examination of the biopsy specimen (G7-No 1).

In March 2017, Assoc. Prof. Dejan Anakievski, MD, PhD, performs the first laparoscopic cryoablation with a METRUM CryoFlex Cryo S Electric II fifth generation apparatus of small renal tumours in two senile patients in Bulgaria (G7-No 5).

The laparoscopic transperitoneal ureteroureterostomy combined with retrograde flexible ureteroscopy assistance for ureteral stricture is successfully applied in seven patients aged between 19 and 58 years without any conversion to open surgery (G7-No 6).

A supraclavicular brachial plexus blockade under ultrasound control is successfully carried out not only in a 73-year male patient with chronic kidney disease on hemodialysis, ischemic heart disease, and sepsis due to A-V fistula aneurysm, but also in a 61-year old female patient with necrotizing upper extremity fasciitis, sepsis and with a past history of ischemic heart disease, diabetes mellitus, obesity, COPD, and endometrial cancer (G8-No 1).

In a six-year old boy with clinically and ultrasonographically diagnosed undescended testis, a small yellowish node, enclosed in capsule, between the testis and epididymis head is detected which is enucleated and a testis orchidopexy is carried out (G7-No 2).

In a 15-year old girl, a small lesion in the left kidney below the renal vessels is

ultrasonographically detected and the heterogenous lesion below the renal hilus with a double pyelocalix system and two ureters is confirmed by computed tomography necessitating the performance of the laparoscopic transperitoneal partial nephrectomy. Histologically, a hemangiopericytoma is diagnosed (G7-No 3).

In a 63-year old patient, a single mass in the bladder, left hydroureter and left hydronephrosis are ultrasonographically diagnosed but using contrast enhanced computed tomography, a well-outlined, heterogenous enlarging endophytic soft tissue lesion on the left wall of the bladder with obturation of the left ureter and hydronephrosis of the left kidney is detected. Transurethral resection of an invasive, highly differentiated leiomyosarcoma, laparoscopic radical cystoprostatectomy, enlarged lymph resection, and totally intracorporeal orthotopic ileal diversion are performed (G7-No 4).

Two articles published in the Bulgarian journal *Clinical Urology* in 2021, represent an interest, too.

Pneumothorax is detected during the performance of a laparoscopic right nephrectomy in a 52-year old patient with right kidney afuction. Computed tomography with intravenous contrast demonstrates a hydronephrotic transformation of this kidney. Drainage tube inserted into the right pleural cavity enables the rapid restoration of the normal respiratory function.

A successful treatment with ureteroscopy without fluorescence and with placement of ureteral stents within delayed urgency during pregnancy is performed in 37 women with persisting renal colic and hydronephrosis as concrements are fragmented by using of Ho:YAG laser.

As a whole, the scientific investigations performed by Assoc. Prof. Dejan Anakievski, MD, PhD, demonstrate a critical clinical thinking and striving towards effective collaboration within interdisciplinary collectives.

The scientific and theoretical as well as the scientific and practical contributions in the works of Assoc. Prof. Dejan Anakievski, MD, PhD, can be generalized in the following manner:

1. The important role of RARP in the treatment of prostate cancer is convincingly proved. The application of LRP is sufficiently effective and safe, too.
2. The laparoscopic renal cryoablation of tumours author is performed for the first time in Bulgaria.
3. Very good postoperative results in the treated patients with urological diseases are achieved.
4. Several extraordinarily rare cases of oncological kidney diseases are reported which are of undoubted contributory nature.

V. TEACHING, LECTURER'S AND PUBLIC ACTIVITY

The teaching loading of Assoc. Prof. Dejan Anakievski, MD, PhD, during the last academic years for the students in medicine, English-language education, is the following: during the 2017-2018 academic year - 114 hours, during the 2018-2019 academic year - 130 hours, during the 2019-2020 academic year - 110 hours, and during the 2020-2021 academic year - 100 hours.

He is adviser of three post-graduate students in urology - Inna Gocheva Ivanova, MD, Pavel Ivelinov Abushev, MD, and Doychin Georgiev Nikolov, MD.

Under his guidance, one postgraduate student, Alexander Maximov Konsulov, MD, has defended his doctoral thesis for the acquisition of the educational and scientific degree of PhD.

Assoc. Prof. Dejan Anakievski, MD, PhD, is member of the following professional and scientific organizations:

- 2004 - Bulgarian Medical Association
- 2005 - Bulgarian Union of Physicians
- 2007 - Bulgarian Urological Society
- 2008 - European Association of Urology
- 2010 - International Young Urology Association
- 2013 - Bulgarian Association of Young Urologists
- 2018 - Endourological Society.

Assoc. Prof. Dejan Anakievski, MD, PhD, is member of the editorial board of the journals *Uronet* (since 2018) and of *Clinical Urology* (since 2021).

CONCLUSION

Based on the aforementioned facts, I can declare that the professional qualification, research as well as teaching and lecturer's activity of Assoc. Prof. Dejan Anakievski, MD, PhD, completely meet the requirements of the Statute-book for the conditions and order for the acquisition of scientific degrees and for tenure of the academic position of "Professor" in the Medical University "Prof. Paraskev Stoyanov" of Varna. Because of this, I recommend to the honoured members of the Scientific jury to vote positively for the tenure by Assoc. Prof. Dejan Anakievski, MD, PhD, of the academic position of "Professor" in the Medical University "Prof. Paraskev Stoyanov" of Varna for the needs of the Educational Sector of Urology, Department of Surgery at the Faculty of Medicine of the Medical University "Prof. Paraskev Stoyanov" of Varna and of the Clinic of Urology at St. Marina University Hospital of Varna.

Sofia

Peer reviewer:

June 1, 2022

(Prof. Krasimir Prodanov Yanev, MD, PhD)



