

*Translation from Bulgarian*

To the attention of the Chairman of the Scientific Jury  
appointed with Order No. ПД-26-1168 from 05.05.2021 of the  
Executive Director of Pirogov University Multi-Profile Hospital  
for Active Treatment and Emergency Medicine EAD

## REVIEW

by Assoc. Prof. Dr. Veselin Marinov Marinov, MD  
MEDICAL UNIVERSITY VARNA

RE: COMPETITION FOR ACADEMIC POSITIONS “ASSOCIATE PROFESSOR” IN THE FIELD OF HIGHER EDUCATION 7. HEALTH AND SPORT, PROFESSIONAL FIELD 7.1 MEDICINE, “GENERAL SURGERY” SCIENTIFIC MAJOR FOR THE NEEDS OF THE SURGICAL CLINIC AT PIROGOV UNIVERSITY MULTI-PROFILE HOSPITAL FOR ACTIVE TREATMENT AND EMERGENCY MEDICINE EAD

One candidate is eligible to participate in the competition - Dr. Konstantin Ivanov Kostov, MD. I received all the required documents, in full compliance with the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations on its implementation and the Regulations for its development of the academic staff at Pirogov University Multi-Profile Hospital for Active Treatment and Emergency Medicine EAD.

### **Candidate`s Biographical Data**

Dr. Konstantin Ivanov Kostov was born in 1978.  
He is currently working at the Surgical Clinic at Pirogov University Multi-Profile Hospital for Active Treatment and Emergency Medicine EAD (Pirogov UMHATEM EAD).  
He graduated from the Medical University of Sofia in 2002 with honors. In the same year he was appointed as an intern at the III Surgical Clinic Pirogov UMHATEM EAD, where after all the transformations of the surgical units he still works.  
After successfully passing the exam, he acquired a major in general surgery in 2008. From 15.10.2012 to 01.11.2016 he was at the assistant position as an Assistant at the Department of General, Visceral and Emergency Surgery at Pirogov UMHATEM EAD. He successfully defended his dissertation on the topic – “Modern trends in the treatment of colon injuries” in 2017 and acquired educational-scientific degree “Ph.D.”. He completed a qualification course in laparoscopic surgery in 2014 at the Military Medical Academy.

### **Research Activity**

For the present competition Dr. Konstantin Kostov has presented 49 publications in the form of articles and reports included in collections of participations in national congresses and conferences, in the National Center for Information and Documentation reference list, publications in editions referenced in international databases, unreferenced participations in national scientific forums and defensive dissertation.

It is noteworthy that the candidate is the first author in 38 of the submitted publications.

The scientific production of Dr. Konstantin Kostov can be divided into the following sections:

- Defended dissertation for the acquisition of educational-scientific degree "Ph.D."
- Publications referenced in world databases editions - 20
- Full-text publications and reports in publications referenced in the National Reference List of the National Center for Information and Documentation - 21
- Publications peer-reviewed in connection with the procedure for awarding educational-scientific degree "Ph.D." – 5
- Participation in scientific forums with reports not published in collections – 3

Regarding the minimum national requirements for acquiring the academic position of "Associate Professor" under the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations on its implementation at Pirogov UMHATEM EAD, the candidate Dr. Konstantin Kostov has presented the following report:

1. As per criterion A - **50** p. of the required 50
2. As per criteria group B - **390** p. of the required 300 p.
3. As per criteria group D - presented 230 points, required are 750 according to the requirements of Pirogov UMHATEM EAD. The same regulations allow the summation of points from groups B and D in case a habilitation or monographic work is not presented as a main one. Under these conditions, the total number of points is **1020**
4. As per criteria group D – **50** p. of the required 50
5. As per criteria group G – **5** p. of the required 5

The reference shows that the minimum scientometric requirements for acquiring the academic position of "Associate Professor" according to the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations on its implementation at Pirogov UMHATEM EAD are met. With regard to points 2 and 3, the applicant's achievements significantly exceed the minimum criteria required.

### **Learning Activity.**

Dr. Kostov has held for 4 years the position of "Assistant" at the Department of General, Visceral and Emergency Surgery Pirogov UMHATEM EAD. He supervised practical exercises for students from the Faculty of Medicine at Sofia University St. Kliment Ohridski, MU Sofia and for students with major in "Health Care". He has participated in the training of specialists in General Surgery. However, no reference for the learning workload has been provided.

### **Continuing Education.**

From the reference provided to the publications it is evident that Dr. Konstantin Kostov regularly participates in scientific forums at the national level with presentations and reports. He is a member of BSS (Bulgarian Surgical Society). He has completed a training course in laparoscopic surgery at the Military Medical Academy. He has a Master's degree in Public Health and Health Management at the Faculty of Public Health at the Medical University of Sofia.

### **Analysis of Scientific Activity and Contributions**

Analyzing the reference of the scientific production of Dr. Konstantin Kostov provided, it is established that the main scientific interests of the candidate are in the field of emergency surgery. The following directions of research can be derived:

1. Modern guidelines for the treatment of colon injuries
2. Diagnostic and therapeutic aspects of abdominal trauma
3. Laparoscopy in urgent abdominal diseases

In the scientific research activity of Dr. Kostov the topic of **traumatic injuries of the colon** has been developed to the greatest extent. A serious analysis of the mechanisms of colonic traumatic injury was performed. The type of abdominal trauma is important - open or closed. The subdivision of traumatic injuries into destructive and non-destructive is important for therapeutic behavior. Dr. Kostov's research emphasizes an important problem - the need for early hospitalization and treatment of patients with colon injuries. Iatrogenic colorectal injuries after endoscopic diagnostic and therapeutic procedures are considered. Established is the connection between the early aggressive surgical treatment of destructive colon injuries, the possibilities for maintaining the continuity of the colon and the good perioperative results. The dissertation and some of the publications recommend a multi-stage surgical approach in patients with unstable condition, polytrauma and traumatic injuries of the colon. The defended dissertation is on the topic of traumatic injuries of the colon and they represent most of the presented publications - 13.

Another major topic in Dr. Kostov's research is **abdominal trauma**. Both the **penetrating puncture-cut injuries in the abdominal area** and the specifics of the closed abdominal trauma with regard to the injuries of the small intestine and the mesentery were analyzed. An analysis of the patients with penetrating abdominal traumas treated in the Surgery Department at Pirogov UMHATEM EAD was performed. Systematized data on the frequency, age groups, location of injuries, combined injuries in penetrating abdominal injuries are presented. The topic of closed abdominal trauma has been developed. An analysis of past patients for a 2-year period with **closed abdominal trauma** was performed. Emphasis is placed on traumatic injuries to the mesentery and small intestine. The clinical picture, the data from paraclinical and imaging studies were evaluated and compared with the intraoperative findings. Particular

attention is paid to early diagnosis as an opportunity to reduce mortality and morbidity in these patients.

Last but not least, the topic of the possibilities of **laparoscopy in emergency abdominal surgery** has been developed. Studies have been conducted using **laparoscopy as a diagnostic procedure in patients with acute abdomen**. Data on a large number of patients were analyzed - 756 for a 2-year period. A differentiated analysis was performed by groups of patients with inflammatory, perforating diseases and those with disorders of the mesenteric circulation. The possibilities for transformation of laparoscopy from diagnostic to therapeutic, as well as the indications for conversion and transition to conventional surgery are discussed.

The topic of **laparoscopic treatment of acute appendicitis** is addressed. Analyzed in the publications are the causes of conversion - hemorrhage, typhoid, anatomical features, origin of inflammation from another organ. The advantages of the minimally invasive approach in terms of perioperative results compared to open appendectomy are discussed. Three of the candidate's publications are on this topic.

One of the publications analyzes the possibilities for **laparoscopic treatment of perforated peptic ulcer**. The candidate defines the indications and contraindications for performing laparoscopy in patients with perforated peptic ulcer. A comparative analysis of the results with the conventional surgical approach was performed and a reduction of the perioperative morbidity and pain in the laparoscopic approach was established.

The presented author's report shows developments in other areas of emergency abdominal surgery - emergency colorectal surgery, treatment of intraperitoneal abscesses, intestinal obstruction, mesenteric circulatory failure.

### **Contribution.**

In the most general form, I agree with the contributions proposed by Dr. Konstantin Kostov, derived mainly from the defended dissertation on the topic: "Modern trends in the treatment of colon injuries," namely:

1. A thorough review of the contemporary literature on traumatic injuries of the colon, which is a serious surgical problem, to which there is no single opinion on the choice of surgical-therapeutic approach
2. Collected, stored and structured for statistical processing are data from a team of patients with traumatic column injuries. Compared to the prevailing data in the literature, this is a significant number and quality of material characterizing the problem.
3. A general characterizing profile of the injured with traumatic colon injuries has been developed and presented.
4. A detailed analytical study of various signs characterizing the traumatic injuries was performed, and the parameters of their difference and frequency were determined. Based on these studies, the most important groups of signs were identified: prevalence of general trauma to the body; localization of traumatic column injury; time intervals

from trauma to hospitalization and from hospitalization to surgery; degree of traumatic injury according to penetration and extent.

5. The significance of the local signs, characterizing the colonic traumatic injuries and the general physiological disintegration, as a consequence of the studied phenomenon, has been studied and analyzed, and groups with grading total severity of the damage have been determined.
6. The dependences on the manifestation of the different signs, characterizing the groups and the choice of operative approach are researched and presented.
7. The frequency of complications and mortality are studied and presented depending on the manifestation of the various signs, combined with the choice of operative approach.
8. A rational, clinically applicable algorithm is proposed, determining the surgical tactics for achieving a timely and correct diagnosis. The local and general characteristics and degree of traumatic colon injuries are determined. A standardized and justified choice of surgical approach is presented.
9. An optimized diagnostic algorithm for timely identification of the traumatic lesion in penetrating abdominal puncture wounds is proposed.
10. The possibilities of emergency laparoscopy in acute non-traumatic abdomen are defined, based on a comprehensive retrospective study.

**Conclusion:**

A review of all submitted documents and especially the scientific output of Dr. Kostov show that the main interests and scientific contributions of the candidate are in the field of emergency surgery. The Surgical Clinic of Pirogov UMHATEM EAD admits a large number of patients with emergency surgical pathology, which has its own specifics. I believe that the candidate Dr. Konstantin Ivanov Kostov fully meets all the requirements for holding the academic position of "Associate Professor"

IN THE FIELD OF HIGHER EDUCATION 7. HEALTHCARE AND SPORTS, PROFESSIONAL FIELD 7.1 MEDICINE, IN THE SCIENTIFIC MAJOR "GENERAL SURGERY" FOR THE NEEDS OF SURGICAL CLINIC AT PIROGOV UNIVERSITY MULTI-PROFILE HOSPITAL FOR ACTIVE TREATMENT AND EMERGENCY MEDICINE EAD

and I would recommend that the honored members of the Scientific Jury vote positively.

Date: 26.05.2021

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/Assoc. Prof. Dr. Veselin Marinov, MD/