

## RECENSION

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on the competition for the academic position "Professor", announced in *State Newspaper* No. 8/ 28.01.2020, in the field of higher education 7. "Health and Sports", from professional field 7.1. "Medicine" and the scientific specialty "Pediatric Surgery". The competition is designed for the needs of the Department of General and Operative Surgery at the Medical Faculty of MU - Varna and the First Clinic of Surgery at the University Hospital "St. Marina" EAD - Varna.

The scientific jury was appointed by order № P-109-194 / 03.06.2020 of the Rector of MU - Varna, in which I was nominate as reviewer.

Assoc. Prof. Dr. Krassimira Kalinova Atanasova-Georgieva appears as the only candidate in the announced competition. She fulfills all the necessary requirements for participation in a competition for the academic position of "Professor", listed in the Regulations for academic development of the Medical University "Paraskev Stoyanov" - Varna. The submitted documents in electronic and paper media are complete as required, and are certified by the relevant institution of the Medical University of Stara Zagora.

### **Biographical data and professional development**

Assoc. Prof. Krassimira Kalinova was born on December 2, 1963. He possesses 30 years of experience as a surgeon. He graduated from the Higher Medical Institute - Stara Zagora in 1988, after which in 1990 she began specialization at the First Surgical Clinic of MHAT "Prof.S.Kirkovich" - Stara Zagora. Her academic career started in the same year, when she was selected as an assistant at the Department of Propaedeutics of Surgical Diseases.

He acquired a degree in general surgery in 1995 and in pediatric surgery in 1999. She has taken many courses and specializations in the field of general and pediatric surgery, as well as urology, in Surgical Clinics in Austria and Germany, as well as in MU-Sofia. In 2004 he obtained a certificate for Accreditation of Hospitals and Health Management.

In 2003, after successfully defending her dissertation, she received the degree "Doctor of Medicine", and in 2010 she was elected associate professor at the Department of General and Operative Surgery, MF-TrU-Stara Zagora.

For the period 2012 - 2016 she was elected as Head of the Department of Pediatric Surgery, Anesthesiology and Intensive Care at the Medical Faculty of Stara Zagora. Since 2016 she has been a member of the Department of Special Surgery. For the period 2012 - 2019 she is a member of the Faculty Council of the Medical Faculty - Thracian University.

### **Scientific production**

Dr.Krassimira Kalinova acquired the educational and scientific degree "Doctor" in 2003, after successfully defending a dissertation on "Clinical studies on the diagnosis and treatment of echinococcosis in childhood." She participate in the present competition with the monograph paper "Rare localizations of echinococcosis in childhood ", released by the Academic Publishing House - Stara Zagora, 2019

Dr.Kalinova presents a list of 171 titles of full-text publications and abstracts of congresses, 1 dissertation for the educational and scientific degree "Doctor" on "Clinical studies on the diagnosis and treatment of echinococcosis in children", 1 own monograph, 15 chapters in a monograph, textbooks and manuals, as well as 2 chapters in monographs in a foreign language.

In view of the scientific development of the candidate, I pay attention to the publications that were released after the competition for associate professor (2010). In the submission list addressed to the HMI - Varna, Dr.Kalinova recites 23 full-text publications registered under ISSN. It should be noted that 9 of them are in GP News, 6 - in Trakia Journal of Sciences and 1 in Surgery - also edition of TJS, 1 in Congress articles Book, 1 in MD (Poland), 1 in Medinfo, 2 - in Merit research journal of Medecine, 2 - в Academia journal of scientific research. The last two are electronic scientific journals. Six of the publications were published in 2020. In 21 titles she is the first author, in the other two she takes second and third place. In the same document she present also 3 participations in international congresses with published summaries.

All these publications meet the requirements of MU-Varna for admission to the competition. In addition, the candidate lists another 17 participations in international congresses with summaries and 9 - in Bulgaria after 2010.

### **Citation and impact factor (IF)**

Several citation references are presented:

According to the “Researchgate” site, the author has 89 citations.

According to academic reference № 1 in the GOOGLE Scholar database, it has 82 citations with Impact Factor 8.53.

According to academic report № 2 on the SCOPUS database Dr.Kalinova has 60 citations. To this reference she gives an additional list of 10 citations by Bulgarian authors and 4 by foreign ones.

I accept the total number of 75 citations, of which 10 in Bulgarian and 65 in English. 45 of the citations were received after 2010 and 30 before that. It should be noted that all citations are related to scientific articles published before 2010.

Dr.Kalinova has calculated her IF on publications in foreign journals with a personal impact factor - 11,214 and a total impact factor - 44,814. She gives IF for citations - 33.60, of which journals with IF - 29, without IF - 5.

### **Teaching and learning activities**

Assoc. Prof. Krassimira Kalinova has a teaching experience in surgery and pediatric surgery for a total of 29 years. She was an teacher and lecturer of students, graduate students, nurses. For the last 7 years she has had a study load at the Thracian University from 320 to 476 hours per year, and from 2017 to 2020 she has 16 hours of lectures per year at MU-Varna. She has lectured at the Surgical Clinic at the University Hospital - Würzburg, Germany and the University Hospital Porto, Portugal.

Assoc. Prof. Kalinova is a research supervisor of two doctoral students with a defended dissertation. He is the leader of 4 research projects and a reviewer of 4 other research projects.

### **Analysis of scientific production**

Topics in the field of pediatric surgery have a predominant weight in the presented scientific production, which is in a large volume. The list of works includes the dissertation for obtaining the scientific degree of doctor and the monograph with which Assoc. Prof. Kalinova participates in the competition.

The topics to which the two works are dedicated, namely problems of distribution, diagnosis, clinical picture and surgical treatment of the echinococcosis in children, have a pronounced value and remarkable achievements, that gain a high scientific and practical importance. The candidate's research on echinococcosis disease in childhood places her as one of the leaders in Bulgaria. Her dissertation on the topic appears as the first one in

Bulgaria in the field of pediatric surgery. The monograph published in 2019 analyzes the rare localizations of echinococcosis, which are a challenge for pediatric surgeons, pediatricians and parasitologists in the process of diagnosis and treatment. For the first time in our country an attempt was presented to classify the rare symptoms of echinococcosis, as well as the treatment of the rare localizations of the disease.

Echinococcosis is a zoonosis that is characterized by spreading throughout whole the world. It is a disease caused by *Echinococcus granulosus*, a common parasitic infection especially in endemic areas, namely in the Mediterranean and African countries. Currently, the echinococcus disease presents a serious medical and social problem that stands to be solved among a wide range of doctors, veterinary and agricultural specialists, pedagogues, local governments and public organizations.

The monograph is written on 160 pages, with 156 cited literature sources and is very well illustrated with the performed diagnostic methods, namely ultrasound, CT, MRI. The data from laboratory, immunological and microbiological investigations are of great value. A comparative characteristic and assessment of the applied operative methods and studies of recurrences, reoperations and prevention of echinococcosis in childhood is given. It is divided into introduction, literature review, followed by 13 chapters concerning the different localizations of echinococcosis in children, then issues of diagnosis, surgical and conservative treatment, conclusion and conclusions.

I emphasize the following important contributions of Dr. Kalinova:

1. Based on the analysis of the achieved operative results due to long-term observation, a proper diagnostic-therapeutic algorithm for echinococcosis of the liver in children and adults has been developed.

2. The indications for choosing an operative method for the treatment of complicated and uncomplicated hepatic echinococcosis are specified. The positive and negative sides of the operative methods - conservative and radical - in the various forms of echinococcosis, as well as the importance of good obliteration of the residual cavity to prevent possible complications have been established.

3. For the first time in our country histological, immunohistochemical and electron microscopic evidence for the presence of fibrosclerotic changes in the pericystic liver parenchyma before the use of scolical agent are presented, thus requiring refinement of surgical technique and type of germicidal treatment of hidadid pericyst.

4. Systematic studies of the immune reactivity of children with echinococcosis have been conducted, establishing pathologic changes in the indicators in these patients, some of which are of a prognostic nature.

5. A clinical-organizational model of dispensary follow-up of the operated patients has been developed and a number of proposals are made for organized control of echinococcosis and hepatic focal lesions. Projects have been developed to prevent the disease in humans.

6. Introduction in the pediatric-surgical practice the ultrasound monitoring of the dynamic development of the residual cavity after surgical intervention by the closed method in hepatic echinococcosis.

7. For the first time in our country a detailed classification of the rare symptoms of echinococcosis, as well as the treatment of rare localizations of the disease is presented.

Assoc. Prof. Krassimira Kalinova published the results of her experience in a large number of articles in Bulgaria and abroad, and also presented it in a number of national and international forums. After 2010, 5 publications are dedicated to the topic.

### **Scientific production in the field of pediatric and general surgery.**

In the field of pediatric surgery, Dr. Kalinova has numerous publications that show diverse interests and extensive clinical experience.

#### *A / Ingvino-scrotal region and pediatric urology*

Compares the results between two - and onestage urethroplasty in children with proximal hypospadias, specifying the time for correction.

Presents the indications for surgical treatment of various types of hernias in children, with special attention to the newborn age. Investigates the indications for surgery of childhood hernias as well as Amiand's hernia.

Specifies the indications and the time for operative resolution in the most common operations on retained testicles. Discusses the results of the selection of the most appropriate operational access in order to preserve the reproductive capabilities of the treated child.

Since 2010, 4 publications have been dedicated to the topic

#### *B / Abdominal pathology and acute surgical abdomen*

Examines the principles of diagnosis and treatment of nonspecific mesenteric adenitis, acute appendicitis, acute ovarian torsion, intestinal intussusception, indications and techniques of laparoscopic surgery.

Since 2010, 8 publications have been dedicated to the topics

### *C / Purulent-septic surgery*

Dr.Kalinova performed the first of its kind study of the complex of modern preoperative markers of inflammation of atypical appendicitis associated with SIRS. Based on personal experience, a diagnostic and treatment algorithm has been developed, which is of high scientific value.

A markedly contribution to the study is the elucidation of sensitive markers of inflammation (leukocytosis, CRP, ferritin, procalcitonin, Il-6, IgG and IgM) and their association as predictive of SIRS outcome. The microbiological manifestation of the disease (mono- and polyinfection), the type of inflammation of acute appendicitis and its localization, compared with the positive criteria of SIRS, were studied.

Investigates the causes of biliary sepsis and acute pancreatitis in children, and specifies the indications for conservative and surgical treatment.

Develops the issue of diagnosis and etiopathogenetic treatment of acute purulent infection in adults and children, considering the importance of inflammatory predictors and preoperative assessment of the disease.

### *D / Endocrine surgery*

The problems of diseases in children and adults, such as nodular goiter, Hashimoto's thyroiditis and thyroid carcinoma, as well as juvenile myasthenia gravis, have been extensively addressed. The indications for operative treatment have been specified, their dispensary monitoring has been performed.

### *E / Thoracic surgery*

Based on the analysis of the achieved operative results from 15 years of observation, a diagnostic and treatment algorithm for pulmonary echinococcosis was developed, both in children and adults.

The indications for surgical treatment of empyemic pulmonary complications are discussed.

### *F / Other issues*

Dr.Kalinova published his experience in the treatment of complicated with ileus mesenteric cysts in children.

Performs etiopathogenetic refinement of the treatment of vascular abnormalities in children.

Develops the possibilities for intraoperative autosplenization after splenectomy.

In the field of health management, Dr.Kalinova offers systems of protocols for rapid recovery, aiming an faster postoperative recovery and shortening of hospital stay. Introduces the principle of one-day surgery in

the practice of the surgical clinic. Examines the possibilities for team treatment of patients with general purulent infection.

### **CONCLUSION**

The scientific activity of Assoc. Prof. Krassimira Kalinova, MD meets the requirements and covers the academic and scientometric criteria for acquiring the academic position of "Professor" defined in the Regulations for the development of the academic staff of MU – Varna. I accept her scientific contributions, emphasizing her leadership in the field of cystic echinococcosis, with a special contribution to the treatment of its rare sites.

Assoc. Prof. Kalinova has 30 years of surgical experience, specializing in leading European clinics and has participated in many international congresses. She is a member of the Union of Scientists, of the BSS, being in its presidency. He is a member of the Bulgarian Association of Pediatric Surgeons and its Management Board. He is also a member of EUPSA, UEMS and WOFAPS. She speaks fluent English and Russian languages. Associate Professor Kalinova has not provided a report on her operational activity, but based on my personal impressions and her scientific publications, I am convince that she is a outstanding surgeon, very experienced and multivalent, performing both emergency and elective surgeries.

All the above facts about the professional biography and scientific production of Assoc. Prof. Krassimira Kalinova Atanasova - Georgieva, MD, give me a definite reason to recommend to the Scientific Jury to be awarded the scientific title "Professor".

Sofia, 14.08.2020

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