

## REFERENCE

By Assoc Prof Rumiana Ruseva Andonova, PhD

Of the scientific work of

Dr Bogdan Yordanov Mladenov

**Concerning:** competitive procedure for academic occupation “Associate Professor” for the clinical specialty Anesthesiology and Intensive Care at the Clinic of Pediatric Anesthesiology and Intensive Care of UMHATEM “N.I.Pirogov”Sofia, as ordered N RD - 26-1167/05.05.2021, in accordance with the decision of the scientific committee protocol ofN NS 02 21 /28.04.2021 based on article 60 paragraph 2 of the Internal regulation for the development of scientific personnel as advertised in Sate Gazette N19/05.03.2021

Candidate: Dr. Bogdan Yordanov Mladenov, PhD.

Dr Bogdan Mladenov was born on 14.01.1982. He graduated from Medical University Sofia in 2006.

He started work as registrar at the Department of Anesthesiology and Intensive Care at MU Sofia and as trainee in the same specialty.

In 2008-2009 he completed a one year training programme in the Paris V Universite de Piere et Marie Curie Paris France at the Dpt of Anesth and Int Care and practical work at the Bichat Claude Bernard Hopital Paris and he completed internships in ENT, anesthesia, orthopedic surgery, Obstetrics and Gynaecology, Recovery room, Cardiosurgery and cardiosurgical intensive care.

Between 2012 and 2014 Dr Bogdan Mladenov was assistant at the DPT of Anesthesiology and Int Care of Medical University Sofia being responsible for medical students and chief responsible for foreign students.

In 2013 after the board exam he acquired the specialty anesthesiology and Intensive Care

In 2014 he was awarded a PhD on the thesis “Laryngeal Masks and difficult intubation”.

In 2014 Dr Mladenov started work in the Clinic of Pediatric anesthesiology and Intensive Care at UMHATEM Pirogov Sofia and as a senior assistant in 2015 in the same clinic.

In 2020 he acquired a diploma in “Management in Healthcare”

## Scientific Memberships

Bulgarian Medical Association, Bulgarian Society of Anesthesiology, Bulgarian Association for the Study and Treatment of Pain, European Society of Anesthesiology

## Main Scientific Interests

The scientific interests of Dr Mladenov are varied and cover many areas of the practice of Anesthesiology and Intensive Care as current methods in anesthesiology in obstetrics , pediatric surgery, Ultrasound techniques for central line placement and regional anesthesia, perioperative risks and management, postoperative analgesia, difficult airways, intensive care, neonatal sepsis, ventilator associated pneumonia.

### Analysis of the scientific work of Dr Bogdan Mladenov

Dr Mladenov presents a total of 51 scientific papers of which

1 Abstract for PhD work

1 PhD thesis

1 participation as co-author in 8 parts of a theoretical/practical manual in Anesthesiology for medical students.

26 papers in scientific journals, referenced and indexed in international databases as well as non-referenced scientific journals with scientific editorial boards.

22 participations in congresses and conferences and nonrefered journals with scientific editorial boards.

### Sources of scientific works in Bulgarian – 35

1 Abstract for PhD work

1 PhD thesis

1 participation as co-author in 8 parts of a theoretical/practical manual in Anesthesiology for medical students

2 in the “Science of Pulmonology” journal

6 in “Anesthesiology and Intensive Care” Journal

3 in “Practical Pediatrics” Journal

22 In collected communications – 1 of which poster awarded 1<sup>st</sup> prize at a poster session

Foreign papers -16

11 in "European Journal of Anesthesiology"

2 in "Archives of Pulmonology and respiratory medicine"

1 in "Transplantation"

1 in "Journal of Clinical Therapy"

1 in "International Bulletin of Otorhinolaryngology"

Works that have already been reviewed – Thesis and Abstract of Thesis

Works that are under review -49

Of which:

1 participation as co-author in 8 parts of a theoretical/practical manual in Anesthesiology for medical students 2 as lead author and 6 as second.

Scientific Papers -26

Scientific meetings participation – 22

Author position in papers:

Leading author – 25 (52%)

Second author – 12 (25%)

Third or other -11 (23%)

The scientific papers can be grouped in the following fields:

General Anesthesiology(1,2,4,8) Difficult airways and airway management in planned and emergency surgery, evaluation of airways and preparation for difficult airways as well as laryngeal masks as supraglottic alternatives to intubation.

The perioperative risk for patients with cardiologic conditions scheduled for non-cardiologic surgery with recommendations to the anesthetist are discussed.

Perioperative analgesia in Obstetrics and gynaecology.(7,13,14) The trend of increased numbers of operative deliveries and increased numbers of epidural analgesia. The experience with preemptive analgesia with COX 2 inhibitors and their opioid sparing

effect is shared. A review is published with options for noninvasive alternatives of analgesia.

Pediatric anesthesiology (9,10) Analysis of the risks of anesthesia in the pediatric age group and the recommendations of informed consent.

Preparation of children for anesthesia with the aim of reducing perioperative risks and psychological trauma.

Emergency pediatric anesthesia (3,5,17,21) The experience of foreign bodies in airways and alimentary tract is shared and the systematic behavior of the pediatric anesthesiologist.

The perioperative complexities of children with corrected heart anomalies are discussed.

Pediatric Intensive Care (16,18,19,23,24,25)

The particulars of neonatal sepsis and causative agents , principles of treatment are discussed.

The importance of antibiotic policies is accentuated in the field of Pediatric ventilator associated pneumonia.

A large part of scientific papers are aimed at the difficulties in venous access in the pediatric age group and the use of ultrasound as well as the intraosseal alternative to difficult venous access

Patient security (11,15)

The possibility of antagonizing muscle relaxants after continuous or intermittent application is discussed as well as effectiveness of new classes of muscle relaxant antagonists.

Personnel safety when working in particular environments (6)

The in vitro and in vivo experiences of the influence of non ionizing radiation, namely static and pulsed magnetic fields, radiofrequency effects on multiple exposures in the MRI scanner and effects on DNA of lymphocytes with potential cancer developments.

Nutrition in the ICU (26)

A multidisciplinary team developed and applied the first national programme for continuous parenteral nutrition of neonates and infants with short bowel syndrome

Case reports are presented (20,22)

Regional anesthesia in the pediatric age group

Regional anesthesia as an alternative to general anesthesia concerning central and peripheral techniques as reported at multiple national and international scientific meetings.

### **Contributions of scientific-applied and theoretical nature :**

As a common contribution of the scientific works of Dr. Bogdan Yordanov Mladenov is the establishment of safe and safe, effective, modern work of the anesthesiologist-intensivist in his daily work .

1. Studies on predictive criteria and different methods for dealing with difficult airways in adults and children, as well as the use and safety of supraglottic devices for ventilation in difficult intubation in different groups of patients. The specific challenges for specialists who provide ventilation of patients with a foreign body in the airways are discussed.
2. Studies on the assessment of perioperative risks and preparation for planned and emergency surgery. The approach and optimization in patients with cardiac diseases who are preparing for non-cardiac surgery is systematized. The modern requirements and norms for preoperative preparation of children in different age groups, including neonatal , as well as for various underlying diseases are summarized .
3. Studies on pharmacokinetic and pharmacoeconomic parameters of various anesthetics, such as preemptive analgesia with COX 2 inhibitor in gynecological surgery ; pharmacodynamic properties of an antagonist of a muscle relaxant at a different pharmacokinetic models of administration relaxant and ; alternative methods of administering opiates in the form of iontophoretic systems ; pharmacoeconomic analysis of consumption of inhaled anesthetics in different modes of operation in pediatric anesthesiology .
4. Studies of the features and specifics of septic conditions in newborns and infants ; the therapeutic approach in systemic infections of children with corrected congenital heart malformations ; etiopathogenesis, clinic and therapeutic approach, as well as prevention and antibiotic policy in ventilator-associated childhood pneumonia.
5. Studies related to childhood trauma, including intrauterine trauma , as well as anesthesia problems in emergency surgery of children with previous correction of severe congenital heart malformations.
6. Studies related to the challenges and opportunities for providing venous access in different age groups, as well as in case of emergency due to shock. The advantages of ultrasound control in providing central venous sources, including in infants and preterm infants with low weight, are systematized. A new program for implantation of permanent tunneled catheters in newborns and infants with small intestinal insufficiency has been developed and implemented.

### **Scientific activity :**

**Publications** in scientific journals, which are referenced and indexed in world-famous databases with scientific information or unreferenced journals with scientific review or published in edited collective volumes , Dr. Bogdan Yordanov Mladenov presents a total of 26 papers ( 18 and 8 papers, respectively ) and 22 participations with reports and posters of congresses and conferences with published materials from them.

**Citation** : The candidate has submitted a total of 7 citations, as in refereed and indexed scientific journals is 1, in monographs with scientific review is 1, in non-refereed journals with scientific review are 5.

**Total Impact Factor** - 35.5.

Dr. Bogdan Mladenov has participated in an international research project Intensive Care Over Nations , sponsored by the World Federation of Intensive Care Societies . He has also participated in national scientific and educational projects and . In 2008 his own project won an award and sponsorship from MU Sofia.

Dr. Bogdan Mladenov has participated as a lecturer in two qualification courses for European training in anesthesiology at the European Society of Anesthesiology .

He has experience as an academic mentor to students in the Student Internship program.

Dr. Mladenov participates in the lecture courses and the practical training of the specialists in pediatric anesthesiology within the specialization in anesthesiology and intensive care.

Dr. Mladenov has experience in organizing several national conferences for pain management, participating in the organizing committee .

**In conclusion** , I believe that Dr. Bogdan Yordanov Mladenov is an accomplished specialist with a variety of interests in the specialty of Anesthesiology and Intensive Care and his overall research and teaching activities cover the national requirements of the Implementing Regulations of the Law on Academic Staff Development the Republic of Bulgaria , as well as those of the Internal Rules of development of academic personnel in UMHATEM "NI Pirogov", bringing together over 850 points, which allows me to vote " **for** " and recommend the honorable jury to vote positively for awarding the **academic position "Associate Professor"** at the Clinic of Pediatric Anesthesiology and Intensive Care **to Dr. Bogdan Yordnov Mladenov** .

08.06.2021

Assoc. Prof. Romyana Andonova