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Review article

Training in regional anesthesia



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ABSTRACT

Introduction: The implementation of a method of ultrasonography with the purpose of visualization of anatomic structures created a whole new chapter in the history of regional anesthesia. In addition, the European Society of Regional Anesthesia (ESRA) has provided the opportunity to obtain European Diploma in Regional Anesthesia (EDRA) recognized worldwide.

Aim: The aim of this work is to describe factors influencing training in regional anesthesia, obtaining EDRA certifying both practical skills and theoretical knowledge, implementation of internationally recognized recommendations in daily practice and methods of evaluating effectiveness of teaching by using cumulative summation analysis (CUSUM).

Material and methods: The work is based on the available literature and the experience of the authors.

Results and discussion: Ultrasonography changed the face of regional anesthesia. Meanwhile, thanks to both European and American Society of Regional Anesthesia (ESRA/ASRA), a growing interest of EDRA shows the importance of a crucial development in regional anesthesia. Also, an important role is played by the possibility of assessment of acquired skills, which can be obtained with the use of CUSUM.

Conclusions: The overall objective of ESRA/ASRA is to widen the circle of anesthesiologists, assistance in acquiring diversified medical experiments, formation of new personnel and exploring the secrets of regional anesthesia among medical practitioners. Undoubtedly, EDRA is invaluable in career development all over the world. Additionally, it is becoming a tool of encouragement for anesthesiologists, for safe and advanced practice in the operating room, making them experts in the field.

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1. Introduction

'I accept with respect and gratitude for my Masters given me the title of medical doctor and fully aware of the responsibilities associated, hereby I promise to (...) serve life and human health (...), to the best of my knowledge prevent suffering and prevent diseases (...), constantly expand my medical expertise and make available to the medical world everything that I can invent and refine...' Each and every doctor remembers these words of the medical oath uttered on the completion of the medical school, solemnly vowing to follow the principles contained in the code of medical ethics. As early as the 5th century BC, Hippocrates – a Greek medic – imposed on future physicians a moral and ethical obligation to lifelong and permanent vocational training. For failure of the aforementioned rules, besides remorse, one can be faced with proceedings for professional liability. Regional anesthesia is undoubtedly a perfect example, where theoretical knowledge, practical skills and experience are essential. The prevailing opinion about the unpredictability and the unsuitability of the perineural blockades is not due to imperfections of this very method but due to the absence of one of the aforementioned elements. It shows how significant it is to implement training in this field already at an early stage of learning, which does not necessarily mean that it is an area dedicated to young residents only. On the contrary, young physicians need mentors, senior fellow professionals to be able to draw on their expertise and experience, while maintaining the safety rules corresponding to the current standards of medical knowledge. In addition, the process of self-education is also extremely essential, which is above and beyond facilitated by the universally available Internet access. It is a huge source of theoretical information transformed into practice via computer animations, video clips and teaching workshops using live human and animal models, phantoms and simulators. Currently, these are the main tools used to acquire the necessary skills. Unfortunately, even the best model is no substitute for direct supervision and assistance that can be provided only by a physician specialist who may complement imperfections of each teaching method. In light of the current data, the number of medical specialists practicing regional anesthesia in Poland is still significantly limited, which puts further education in this field under a big question mark. Therefore, an emphasis should be put on young doctors in order to provide the next generations with comfort which senior medical specialists are deprived from.

Modern anesthesiology requires a doctor's in-depth theoretical preparation and practical skills, of which regional anesthesia is an adequate example. For the regional blockade to be effective, apart from the knowledge of the principles and the method of executing the procedure, the doctor must have a completed manual training before approaching a patient with a 'needle' in order to perform anesthesia for surgery.

Good knowledge of anatomy and topography, in combination with the ability of imaging by means of the ultrasound scanner, gives anesthesiologists a tool for the performance of regional blockade of practically any nerve or plexus. There are many ways to acquire the skills: regional anesthesia training courses, teaching materials in the form of films, computer

programs, web sites or scientific literature. The simulations of the techniques of performed blockades are becoming a crucial element of the training in regional anesthesia. This plays a critical role in the opportunity to learn the basis of sonoanatomy on live models. The European Society of Regional Anesthesia (ESRA) brings together physicians of various specialties, who want to deepen their knowledge and skills through international courses, internships and the opportunity of receiving a diploma such as European Diploma in Regional Anesthesia (EDRA) after meeting several criteria and passing a practical and theoretical examination. The cumulative summation analysis (CUSUM) is an objective self-assessment tool that offers a level of contextualized scrutiny checks to measure an individual's acquired skills.

2. Aim

The aim of this work is to describe factors influencing training in regional anesthesia, obtaining EDRA certifying both practical skills and theoretical knowledge, implementation of internationally recognized recommendations in daily practice and methods of evaluating the effectiveness of teaching by using CUSUM.

3. Material and methods

The work is based on the available literature and the experience of the authors.

4. Results and discussion

4.1. Factors influencing training

The wide dissemination of the imaging method, such as ultrasonography, had already changed the face of regional anesthesia; by attracting numerous young anesthesiologists and allowing senior specialists to relive this so very engaging field of medicine. Equipping the operating room with the ultrasound scanner is closely linked to the hospital's economic status, which unfortunately is the main limiting factor for this method among anesthesiologists. Numerous doctors participated in perfectly prepared workshops in ultrasonography and neurostimulation in anesthesia, both in Poland and overseas, after which they were fully charged with positive energy and willingness to implement theory into practice. However, often they collided with the harsh reality of the shortage of time, the right tools or simply lack of commitment of the senior specialists. In many cases, these are significant obstacles, at times even insurmountable, which make training in this field of secondary importance, often leading into oblivion. A new tendency among young residents of anesthesiology and intensive care, in some European countries, becomes a 40-h working time greatly limiting the possibility of training. It significantly interferes with the opinion of Peter Marhofer, one of the icons of modern regional anesthesia, a physician with extensive experience in conducting perineural blockades. According to him, the ability to effectively perform such

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