

TO
THE CHAIRMAN OF THE SCIENTIFIC JURY
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OF THE RECTOR OF MU - PLOVDIV

STANDPOINT

From Prof. Dr. Tihomir Nikolov Eftimov PhD.
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Subject:

The dissertation of Dr. Kalnev is devoted to an extremely important problem in the field of spinal surgery, related to the neurosurgical treatment of patients with fractures in the area of the craniospinal transition of the spine. This is also a serious medico-social problem since the incidence of this pathology represents one-third of fractures in the cervical region and is associated with high patient disability, as well as with serious financial costs for treatment, rehabilitation, and social integration. It is well known that the rapid technological development and diagnostic imaging in recent years have also led to an intensive increase in surgical interventions in the field of spinal surgery. Therefore, a thorough knowledge of the anatomical features in this segment of the spine, the application of modern and timely diagnostics, as well as good surgical skills of the neurosurgeon are key to the correct classification of the injury and selection of the best treatment for each individual patient.

I can categorically note that the dissertation work of Dr. Kalnev developed in this direction is extremely relevant and necessary for the development of Bulgarian neurosurgery, as such scientific developments in Bulgaria at this stage are still insufficient.

The scientific work of Dr. Kalnev is an ambispective study, precisely structured and meeting the required criteria for a dissertation. A thorough and up-to-date literature review is made, including an analysis of scientific works by Bulgarian neurosurgeons on the problem under study. Based on the specific conclusions drawn from the literature review, the dissertator sets a clear goal for his study - to develop and validate an evidence-based algorithm for the surgical management of patients with fractures in the craniospinal transition region of the spine, by performing a short- and long-term assessment of the outcome of the treatment performed. From the aim of the dissertation thus stated, five specific tasks were formulated and necessary for its accomplishment. Following their fulfillment, Dr. Kalnev used proper methods in examining the material - sociological, clinical, survey, and statistical. The 72 patients studied for a period of m. March 2012 to m. December 2020 is quite sufficient in number and accurately stratified. Clearly defined inclusion and exclusion criteria were adopted and strictly followed throughout the study. This enabled the dissertation to adequately and thoroughly analyze the data.

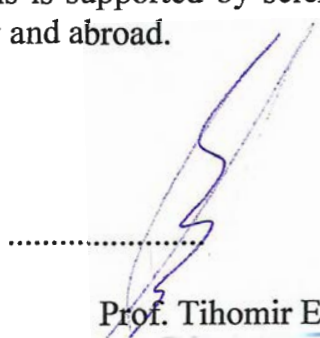
In presenting the results, Dr. Kalnev used extensive photographic material, graphs, and diagrams. Through a thorough statistical analysis, the dissertation proves that the highest percentage of fractures in the craniospinal transition area of the spine are due to car accidents (mostly in young patients), followed by fractures caused by falls (in older patients), impact, sports trauma, and other traumatic accidents. The manifestation of neurological deficit was found in about 40% of the cases analyzed. With the highest

incidence were different types of C2 vertebral fractures. Combined vertebral fractures were diagnosed in one-third of cases. The results of neurosurgical treatment by three main surgical methods - occipitospinodesis, anterior fixation of the dens and corporodesis - were analyzed. Patients with corporodesis at the C2/C3 level had the best results and the best pain response at dehospitalization, followed by those with anterior fixation of the dens. Patients who underwent corporodesis had 100% recovery. As a disadvantage in the analysis of surgical results, I could point out the lack of patients in whom a neuronavigated fusion was applied. However, it is worth noting that the dissertator skillfully handled scoring scales validated in practice for various indicators, which shows very good professionalism. Precisely based on the application of specific scales for objective assessment, when discussing his own results, Dr. Kalnev also proposes four algorithms of the management of different types of fractures in the craniocervical transition, which gives significant scientific and practical significance to the dissertation.

The conclusions formulated by Dr. Kalnev are mainly confirmatory. Based on them I could confirm the self-assessment of the dissertation contributions made by the dissertant. Two of them are of scientific and theoretical nature, namely, that for the first time in the country an in-depth study has been conducted on patients with fractures in the craniospinal transition, analyzing the indications and results of the surgical treatment, as well as the type of surgical technique applied - anterior, posterior or combined (anterior-posterior). An extremely important scientific and applied contribution is the development of proprietary algorithms for the surgical management of patients with injuries in the craniocervical spinal transition.

In conclusion, I am fully convinced that the dissertation thesis of Dr. Mihail Borislavov Kalnev is extremely thorough and up-to-date, developed according to the required criteria, and with undeniable scientific contributions. It has a high scientific value both in regional and international aspects. This is supported by scientific publications and participation in scientific forums in the country and abroad.

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Sofia



Prof. Tihomir Eftimov PhD

Заличено на основание
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