

General: On the basis of Order No 172 / 09.04.2019, on the basis of Art. 4 from ZRASRB, Art. 31 from PPZRASRB, Art. 29 from the Rules for the Development of the Academic Staff at Acibadem City Clinic MBAL Tokuda EAD and Decision of the Scientific Council of Acibadem City Clinic MBAL Tokuda EAD (Protocol №25/12.02.2019) I present the following opinion.

All necessary materials, prepared by the candidate are done precisely, and all requirements from the academic council for the procedure of obtaining the academic degree "Doctor" have been met.

Education, classification and specialization of the dissertant.

Dr. Asen Hristov Cekov was born in 1985 in Sofia. He graduated from the Spanish Language School in Sofia in 2004. In 2011 year he graduated with a Masters in Medicine, and in 2014 with a Masters in Health Management from MU - Sofia. In 2018 he acquired a specialty in Neurosurgery. He has completed courses in Medical Psychology (2006 -2007) and Modern Pharmacotherapy (2007-2008 year) at MU - Sofia. He has taken part in many additional educational venues on numerous neurosurgical topics (microneurosurgery, diseases of the spine, hydrocephaly etc.) in Germany, Austria, Finland and Cyprus.

From 2008 until now, Dr. Cekov has attended more than 60 scientific congresses and conferences in Bulgaria and worldwide, where he has presented works on the diagnosis and treatment of intracranial tumors, vascular lesions, spinal dysraphism, pathology of the spine, traumatic head injuries.

Dr. Cekov knows fluently Spanish and English. He is a member of the Bulgarian Society of Neurosurgery and the Bulgarian Medical Association.

Dissertation

The presented dissertation discusses the problem Tethered Cord Syndrome, which is presented as a common pathogenic moment for all dysraphic anomalies. Dysraphic diseases are serious inherited malformations creating serious social problems, which defines the topic of the dissertation as current and socially important.

With the advance of technology in radiology (pre- and postnatal ultrasound and MRI) the tracking of the mechanism of development of those malformations from the very beginning from the time of embryonic development and continuous differentiation of the problem Tethered Cord Syndrome in last years. has become possible. As well as its meaning when forming of the neurological deficit and progress of the accompanying anomalies.

In the national literature there are few messages and in the worldwide literature the experiments for aggregation and systematization of the problem are few. Dissertation of dr. Cekov tries to systematise a conclusion of pathogenic mechanisms, the possible surgical solutions, as well as treating the problem, and its prevention of its recurrence.

Structure of dissertation

The dissertation is presented on 138 pages and meets all the requirements. It has introduction - 2 pages, literature review - 42 pages, tasks, materials and methods of research - 5 pages, results from research - 36 pages, discussion of results - 31 pages, conclusion and recommendations - 1 page. It is visualised with 5 tables and 46 figures. The bibliography includes 308 titles, from which 13 are on cyrilic and 295 in latin.

Literature review is 42 pages and looks at the historical development of the problem, the normal development of the spinal brain and some paraspinal structures and pathomorphological, pathogenetic mechanisms and the classification of the different dysraphic malformations. Reviewed are also the pathophysiological changes that are associated with the fixation of the spinal cord, as well as the progression of pathomorphological changes.

The goal of the dissertation is, after an analysis of literature, to summarize the experience of the Clinic of Neurosurgery of Acibadem City Clinic MBAL Tokuda EAD based on 84 operations and creating an algorithm for diagnosis and treatment of tethered cord syndrome and based on the pathogenic mechanisms, provoking the emergence of neurological deficit. The proposed tasks are seven and satisfy the defined goal.

Results from the study. The surgical treatment of dysraphic malformations is done on 84 children, meanwhile improvements have been introduced in the operative techniques according to the specific pathogenic mechanism of each malformation. Especially valuable in this case is the in-depth research of anomaly of each case, the discovery of the available and predictable variant of tethering and definition of period and type of operative treatment. The author doesn't look at the spinal pathology in isolation, but together with the accompanying anomalies, which have incredibly valuable role. The author introduces improves in the already existing classification of these malformations which shows that he is familiar with this problem.

Another significant moment is that in the proposed scheme of operative treatment emphasis is placed on practices, which prevent the development of re-tethering, which is a serious problem discussed in the english literature.

Emphasis is placed on the necessity of an overall visual examination of the neural system in the specified period, which makes it easier to avoid complications, which the author makes clear in his dissertation.

Conclusions and Recommendations

The conclusions and recommendations are made based on the thorough analysis of the literature data and achieved results and are meant to be followed in the practice.

Contribution

The contributions presented from the author are significant, well defined and presented in three ways: theoretical, scientific and practical.

Publications in accordance with the dissertation

The dissertant presents 2 full-text publications in bulgarian magazines and 3 scientific texts made in international conferences, which resumes are published in the scientific journal Central European Neurosurgery. With the present publications dr. Cekov meets all the requirements of the for applying by ZRASRB.

Conclusion

I know Dr. Asen Cekov from the Neurosurgical course, which I led before few years in UMBAL Sv. Ivan Rilski and from there I have excellent impression for his personal qualities and scientific background. The proposed work on "Current Trends and Opportunities in Diagnosis and Treatment Tethered Cord Syndrome" from Dr. Asen Hristov Cekov contains valuable for the theory and practice results, which are with scientific and clinical character. The dissertation meets all the requirements for awarding of Educational and Scientific degree "Doctor". Scientific indicators of Dr. Cekov also meet the requirements of the guidebook for applying ZRASRB. This gives me a reason to vote positively for awarding Educational and Scientific degree "PhD" to Dr. Asen Hristov Cekov.