

Opinion

From: Assoc. Prof. Dr. Nikolay Gabrovski, Head of Clinic of Neurosurgery, Pirogov Hospital, Sofia.

About: Dissertation of Dr. Asen Cekov on the subject of “Current Trends and Opportunities in Diagnosis and Treatment **Tetered Kord Syndrom**” to award of scientific and educational degree “Doctor”

Tethered-cord syndrome is a pathological condition in which the fixation of the distal spinal cord to inelastic structures is the cause or potential cause of neurological deficit at some stage of human development. The condition appears to be one of the most common pathologies in pediatric neurosurgery.

Tethered-cord syndrome may be caused by a variety of pathomorphologic changes (malformations of the myelon and terminal filum, congenital tumors, post-inflammatory changes, bone abnormalities, traumas, imperfect surgical techniques, etc.) that lead to ischemic and traumatic myelon lesions caused by the stretching of the latter in the physiological ascension of the myelon as the child grows or the trauma of the latter at a later age.

The scientific work of Dr. Asen Cekov is presented on 138 pages, including 46 figures. The bibliography includes 308 sources, from which 13 are in Bulgarian.

The structure of the dissertation is well balanced in accordance to the requirements.

The literature review is exhaustive and includes the most important published materials on the topic and a significant period of time is covered - from the beginning of the research on the topic until the most contemporary investigations and research. All aspects of the disease and the historical development of therapeutic concepts and technologies are presented. Based on this exhaustive analysis, the unsolved problems are synthesised and the goal of the dissertation is defined: to sum up the experience of the Clinic of Neurosurgery in respect to creating an algorithm for the diagnosis and operative treatment of Tethered Cord Syndrome in accordance of the pathogenic mechanisms, provoking the emergence of neurological deficit.

The clinical material encompasses twelve year period and 84 children with different forms of spinal дизрафизъм. This volume allows to make a thorough analysis and achieve the goals of the dissertation. The tracking period and scientific and statistical methods - too.

Even though the the subject is challenging because of its great variety, it is researched thoroughly and all aspects are presented - from the different methods for diagnosis through the method for building a therapeutic strategy and also details about the surgery technique. Visualisation is on very high level and allows the document to be used as a practical guidebook for the treatment of tethered-cord syndrome. Classification of the condition is also proposed, which is simplified and compliant with the pathogenetic variety of the syndrome

rather than its clinical manifestation, which can be a signal of other pathogenic mechanisms. This practical orientation makes the scientific study especially valuable.

Two of the contributions of the dissertation are theoretical, the other two are scientifically-applicable and seven are with an applied character.

Dr. Asen Hristov Cekov references three scientific publications in connection with the dissertation and all three are in English and also in "Journal of Neurological Surgery Part A: Central European Neurosurgery). In two of them he is the main author. This is a clear attestation for the quality of the scientific material.

Based on the above I found that the dissertation of Dr. Asen Hristov Cekov on the subject of "Current Trends and Opportunities in Diagnosis and Treatment Tethered-cord syndrome" has the necessary characteristics and meets all the criteria for awarding Educational and Scientific Degree "Doctor".