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REVIEW

from **PROF. Dr. BORIS SAKAKUSHEV MD PhD**

for dissertation work

"EVALUATING THE DIAGNOSTIC VALUE OF EXTENDED BIOCHEMICAL ANALYSIS AND TUMOR MARKERS IN DIFFERENTIATIONG MALIGNANT PLEURAL EFFUSIONS"

of **DR. VLADIMIR SLAVCHEV ALEKSIEV**

for the promotion to educational and scientific degree "PhD"
in the scientific specialty "Thoracic Surgery"

PhD candidate, Department of Special Surgery at Medical University "Plovdiv"
with scientific supervisor: **PROF. DR. IVAN NOVAKOV MD PhD DSc**

The dissertation investigates malignant pleural effusions - common and clinically significant, multidisciplinary medical and socio-economic problem.

The lack oif systematized and adapted data on the subject, emphasizes the importance of presented diagnostic-therapeutic algorithm, combining the standardized biochemical and tumor markers with a personalized and clinical approach. This contributes to early and deffinite diagnosis, optimizes treatment and improves quality of life of these patients.

The literature review is comprehensive, informative, up-to-date and critically presented. The aim is to investigate the morphological and biochemical characteristics of the pleural space, to classify pleural effusion, to diagnose the possibilities and methods of treatment in patients with malignant pleural effusion and to outline the need for a personalized diagnostic and treatment approach. It is logical the main focus to be on the diagnostic application of tumor markers for malignancy caused by pleural effusion.

The goal is formulated precisely and with 7 completable tasks.

The material of 151 patients is sufficiently representative, the criteria are clear, the method is diverse, relevant and up-to-date, with a good description. The statistical processing was performed with 8 modern tests and methods.

The careful analysis and detailed description of the results determine the possibility of applying an expansion of the panel of biochemical indicators and tumor markers in the differential diagnosis of pleural effusion malignancies.

The "Discussions" section debates the diagnostic role of pleural puncture, the analysis of pleural puncture collections, the role of markers in the pleural fluid, and the indications for invasive methods. The principles of treatment and the results of the authors and data from available literature on the topic are discussed.

The synthesis of dissertations in the 6 conclusion statements has contribution of scientific and applied nature. They logically present the most important findings from the analysis of the results, namely, that tumor markers play a key role in the diagnosis and prognosis of pleural malignant pleural effusions, thus improving the accuracy of the diagnosis and providing valuable information about the patient's prognosis.

The dissertation is convincingly illustrated with figures, tables and original photographs, including 196 references.

The author’s abstract is struictured according to the accepted requirements.

CONCLUSION

The following dissertation and the abstract demonstrate the author's good knowledge and experience on the problem, it is well done, and results with original contribution to thoracic surgery and oncology.

I consider that the dissertation "Evaluating the diagnostic value of extended biochemical analysis and tumor markers in differentiationg malignant pleural effusions" corresponds with the necessary requirements for the promotion to the educational and scientific degree "PhD", according to the doctoral program "Thoracic Surgery" and I highly recommend the honorary members of the scientific jury to vote positive for the promotion of Dr. Vladimir Slavchev Alexiev to the educational and scientific degree "PhD".

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Prof. Dr. B. Sakakushev, MD PhD: