Standpoint

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Subject: Dissertation for awarding NSA "Doctor" to Dr. Krasen Zdravkov Ivanov, Clinic of Gastroenterology, Acibadem City Clinic University Hospital Tokuda EAD.
According to Order 15-03-432#1/15.11.2023 of the Director and Procurator of the hospital, I am approved as a member of the Scientific Jury under the procedure for public defense of the dissertation of Dr. Krasen Zdravkov Ivanov on the topic "Malignant ascites and place of peritoneal tunnel catheters in their treatment", and I am determined to present an opinion on the said dissertation.
A number of diseases are associated with accumulation of fluid in the abdominal cavity, with a significant share falling on malignant processes. Pathogenetic mechanisms are different and very often the response to diuretic therapy is unsatisfactory. A large number of patients require recurrent paracentes, which are associated with the risk of complications, as well as the need for frequent hospital visits. On the other hand, tense ascites in patients with neoplasm significantly worsens their quality of life and its inadequate management limits the application of modern antitumor therapy. Optimal control of ascites is associated on the one hand with improved quality of life, patient mobility, spending more time with their loved ones and more anti-tumor therapy options. Currently, there is no standard for the treatment of malignant ascites. Peritoneal ports are one of the options. They have been approved by the FDA and available relatively recently (2015). The experience with them is still small, which determines the relevance of the topic of the dissertation. The author for the first time in the country introduces and applies peritoneal port-catheters in the treatment of malignant ascites and gives a request for the development of an algorithm for managing this unpleasant, sometimes catastrophic complication.
The literature review is based on 136 sources, most of which have been published in the last 5 years. The author examines in depth the classifications, mechanisms of occurrence of ascites, clinical manifestation, methods of diagnosis and treatment strategies. Emphasis is placed on the different mechanisms for the formation and accumulation of ascites fluid in malignant diseases and the limited treatment options. The available publications reflecting experience with peritoneal port-catheters are examined thoroughly.
From the analysis of the published data, the purpose and tasks of the dissertation are logically derived, which are clearly and precisely formulated.
The author looked at 126 patients. All of them have passed through the Clinic of Gastroenterology at ASA University Hospital "Tokuda" EAD. All of them have a peritoneal port-catheter personally by the author. The study is retrospective

observational and is related to the analysis of medical history, protocols, as well as data from the hospital information system, covering the period 2016-2023. The large number of patients with oncological diseases who need paracentesis due to malignant ascites inspire the author to seek a cutting-edge solution for them, which in turn lays the foundations of the current scientific work.
All patients had a detailed history, physical status, performance status, and the evolution of their cancer was detailed. Quality of life was assessed using a unified questionnaire. A thorough analysis of ascites fluid was conducted, and each patient was tried to determine the leading pathogenetic mechanism for ascites accumulation. One of the merits of work is the development and approbation of its own algorithm for the selection of patients suitable for the procedure. It is noteworthy the thorough screening for ascites fluid infection and the strict selection of patients in terms of speed of ascites recruitment, need for paracentes, response to diuretic therapy, general condition, expected survival, as well as the definition of clear indications and contraindications to the methodology.
The way to implant the catheter is described in great detail, and undoubtedly the work can serve as a guide for any specialist gastroenterologist, surgeon or clinical oncologist who has decided to treat patients with malignant ascites. The clarity of the explanations betrays the author's great experience and routine in carrying out the procedure in question. In addition, it is explained in detail how patients to evacuate ascites fluid at home. The methods of statistical data processing are varied and properly selected.
The results obtained are presented in detail and reflect both the etiopathogenesis of ascites in all patients analyzed and the results achieved with the port-catheter in question. In addition to well-known facts, such as that the most common cause of malignant ascites is ovarian carcinoma, that malignant ascites is more common exudate, and that cytoloic examination of ascites fluid is of low sensitivity, the author also reaches original conclusions. It becomes clear that the application of tunnel port-catheter in patients with malignant ascites is associated with improvement in quality of life, reduction of hospitalizations, the possibility of longer and effective antitumor treatment, etc. The author analyzes in detail the complications of the procedure, as well as the risk factors for their occurrence. His proposed algorithm for selection of patients suitable for port catheter is associated with optimal results and following it minimizes the risk of complications.
The contributions of the scientific work are mainly of an applied nature. The most significant of these are:

1. The methodology is new for the country and can be easily introduced and applied without the need for expensive and complex equipment.
2. The developed own algorithm for selection of port-catheter patients predetermines optimal results and minimizes the risk of complications.

3. The methodology actually improves the quality of life of these patients and reduces their need and connectivity with a hospital.

Critical remarks: The retrospective design and observational nature of the study, while not detracting from its significance, are not optimal for this type of study. Developing a randomised trial comparing a peritoneal port-catheter to another type of treatment (e.g. volumetric paracentes) would have a number of advantages. Interesting and useful would be the evaluation of the cost-effectiveness of the method. An analysis of the differences in direct costs between different treatment strategies would probably solidify and help to turn the technique in question into a curative strategy of choice. A prospective design and the presence of a control group would so idify the advantages of the method and possibly highlight the unique features of the technique. This would have greater scientific value than the proof and reaffirmation of well-known facts, which is noticeable in places in the "Results" section.

Conclusion: As a member of the Scientific Jury, I believe that the scientific work of Dr. Krasen Ivanov "Malignant ascites and place of peritoneal tunnel catheters in their treatment" is topical and of high scientific value. Considering the pioneering topic for our country, the detailed literary review, the well-formulated purpose and tasks, the original and well-statistically processed results, the translucent rich practical experience of the author and the indisputable contributions of the dissertation, I call on the members of the Esteemed Jury to vote "For" the educational and scientific degree "Doctor" of Dr. Krasen Ivanov.

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