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Strategies to improve activity and results of the head and neck tumor board

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ABSTRACT

Solid tumors represent chronic disease that can be rarely detected, diagnosed and treated without the use of a multidisciplinary team. When a neoplastic disease is initially evaluated, involvement of a single physician does not seem to be sufficient to establish diagnosis and staging. Assessment of each individual case of malignancy is the main purpose of the entire medical staff engaged in treating cancer patients. In Romania, the use of oncology committee with a multidisciplinary form of organization has been set to work in Bucharest and Cluj-Napoca, since the beginning of 1978 under direct supervision of professors Alexandru Trestioreanu and Ion Chiricuță. The joint session of the tumor board resides into establishing the optimal oncology therapy for each patient. The task of informing the patient about the decision is performed by the physician that is overseeing the patients' evolution. There is no mandatory oncology therapy action from behalf of the physician after the decision of the tumor board was made. However, it is more likely for head and neck cancer patients to receive better, more accurate staging, as well as optimal oncology therapy in a local or academic hospital tumor board setup.

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Introduction

Solid tumors represent chronic disease that can be rarely detected, diagnosed and treated without the use of a multidisciplinary team. The involvement of a single doctor is very rare in practice, when a newly discovered cancer is initially evaluated and staged. The assessment of each individual case of malignancy is the main purpose of the entire medical staff engaged in treating cancer patients. This allows the patient to have a better chance of optimal health care, and also it constitutes the landmark of continuous medical education [1].

The joint committee of health care providers dealing with cancer patients is known as "Tumor Board" (TB) in Anglo-Saxon countries and as „Réunion de Concertation Pluridisciplinaire" (RCP) in French speaking countries [2].

In Romania, diagnosis and oncology therapy committee represents a medical entity based on the participation of different medical experts, who have the purpose of evaluating clinical and paraclinical data regarding each individual cancer patient, in order to set the optimal therapy related to the best clinical practice and up-to-date guidelines [3].

Some history data show that in the United States of America the multi-disciplinary committee of a clinical hospital is part of oncology case management since 1940 [4]. The forefathers of this committee stand to be part of American College of Surgeons, which is considered the oldest medical association dealing with cancer patients.

As a newer form of management and organization, The American Cancer Committee (GoC) sets treatment standards and the functioning of each tumor board for clinical hospitals [5, 6]. As we mentioned before, the French variation of the multidisciplinary oncology team has been set to perform from 2004 with updates as a French national plan for cancer patients, which later evolved

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progressively into local medical committee for cancer patient's data analysis. French oncology specialists introduced the use of a common form of transcribing cancer patients' data coded into digital data (Dossier Communiquant en Cancerologie) since 2006 [3].

In Romania, the use of oncology committee with a multidisciplinary form of organization has been set to work in Bucharest and Cluj-Napoca since the beginning of 1978, under direct supervision of professors Alexandru Trestioreanu and Ion Chiricuță [2].

Discussions

Romanian head and neck tumor boards are mandatory to evaluate each solid tumor cancer patients' data, according to the decision of Healthcare Ministry and the National House of Health Care Insurance. Processed data should be included in ONC-1 chart which should be available in the Romanian Oncology Registry [3]. However, regarding head and neck cancer pathology there is still no such registry so that digital folder and data for each patient are not available throughout the health care system and health care providers. The functioning of the tumor board is mandatory for each oncology hospitals with particularities regarding specialty. This led to the development of oncology functioning guidelines which are adopted by clinical hospitals based on the recommendations of Healthcare Ministry and the National House of Health Care Insurance.

The debate is individualized for each head and neck cancer patient during open sessions of the tumor board. Each of the members of the committee is capable of individually contributing to the diagnosis and treatment options [4-6]. The joint session of the tumor board resides into establishing the optimal oncology therapy for each patient. The task of delivering the decision to the patient is done by the physician that is overseeing the patients' evolution. There is no mandatory oncology therapy action from behalf of the physician after the decision of the tumor board was made. The health care provider that administers the oncology case for each individual patient has the liberty to discuss every therapy solution with the patient. However, the physician is obligated to address the patient starting with the decision of the tumor board.

The rights of the patient, including cancer patients, stipulate that informed consent and self-determination are two key aspects in making oncology therapy decision [7-10]. Physicians that oversea each individual head and neck cancer patient are obligated to present to the patient all oncology therapy methods including benefits, risks, side effects and survival rates. Only after presenting all this data to the patient, a decision from behalf of the patient is going to be made. There is the possibility that the patient will refute all the medical evidence and decide not to treat the cancer. Regarding all aspects of head and neck cancer therapy, the patients' decision is absolute and needs to be respected by the physician. The cancer patient needs to address in writing the informed consent for whatever option is wanted.

Improvement management of head and neck cancer patients

A few aspects need to be detailed regarding data for each head and neck cancer patient. In some cases, the biopsy specimen taken from the patient is not conclusive for the disease. These situations need to be addressed by serial biopsies and even immunohistopathology from multiple lesions. This, of course, takes time and in some cases, it makes the difference between choosing one form of oncology therapy or another. Head and neck tumors that might be operated at one point in time can become unresectable due to the course of tumor evolution, thus making biopsy sampling one of the fundamental aspects of diagnosis.

There is a constant need for improvement and updating guidelines regarding diagnosis of head and neck cancer in terms of economy value, quality of life for the patient, oncology therapy options and critical medical data analysis. Regarding this standpoint, there is a discussion regarding imaging studies which need to be aimed towards the affected lesion and have a comprehensive overview on the normal anatomy, tumor size and location and the relation of the tumor with surrounding tissues. In some cases, there is a lack of contrast substance use which in terms of analyzing vascular involvement is a downside. More to this, there is the case of incomplete description of either the tumor extension or its' relation to surrounding organs and tissue. This misinterpretation of the imaging studies can lead to impaired staging of the disease and thus wrong indication for oncology therapy. For this aspect we considered that a stable and medical based communication between surgeon, oncologist and imaging specialist is a must and precision imaging studies need to be made by specially trained imaging specialists. This is the reason that over the best decade radiologists have been invited to participate to the tumor board reunion. Second opinion of imaging studies might make the difference regarding correct or incorrect oncology therapy indication.

Molecular tumor board

There are cases of patience that are untreatable with all the oncology therapy available in terms of good clinical practice and guidelines. For this situation, recommendations are to enroll patients in clinical studies which evaluate the necessity and effectiveness of new age oncology treatment methods. There are some new concepts the are being evaluated regarding "precision medicine", which uses large amount of data gathered from data

binging and data mining [11]. This process is dependent on the creation of a database of genomic interpretation, the use of biobanks and platforms for bioinformation. Several studies indicated that the need for delivering more accurate and precise oncology therapy led to the decision of creating molecular tumor boards. Some new tools are being used to increase available options for oncology therapy like liquid biopsy, next generation sequencing or genome sequencing [12]. Relapsing cancer or refractory cancer cases are subject to clinical trials for outcome improvement. Precision medicine targets point mutations and the possibilities of therapy paradigm shift. Of course, there are ethical challenges that need to be addressed so that cancer patients trust is obtained, as well as participation from physicians, researchers and academic elite centers [13].

Tumor board communication and audit

Higher levels of communication between members of the tumor board need to be reached so that quality of oncology therapy decision-making in the quality of life of the patients are improved. There might be a solution regarding accurate head and neck imaging studies that the local hospital imaging studies provider have access to high end technology and diagnosis can be more accurate when having a partnership with academic hospitals. There is a constant need for subspecialty expertise regarding head and neck organs [14, 15]. Regularly scheduled meetings in telemedicine setup or in multidisciplinary tumor board conferences to which academic health care providers discuss cases with oncology physicians in local community hospitals can reduce time do decision-making regarding head and neck oncology cases [16]. Distant site or local tumor board conferences need to have a core group of medical professionals of different specialties like head and neck surgery, oncology, radiotherapy, radiology and pathology [16]. There is a possibility of inviting health care providers from other specialties like anesthesiology, psychology, metabolic and nutrition assessment and internal medicine. The rights for Romanian patients include the possibility of third-party opinion from a specialist designated by the patient, so that collaborating healthcare professionals can also join tumor board conferences. Selecting cases for tumor board joint meetings is the attribution of each health care provider that may come across a head and neck cancer patient. Cases discussed may be newly diagnosed, recurrent disease or complex management cases [17]. There is some evidence that discussing a head and neck cancer patients' case in the tumor board might improve oncology therapy decision and some clinical evolution and outcomes [18].

Each meeting of the tumor board should have a finishing log in which decisions regarding oncology therapy for newly diagnosed cases, changes in advanced oncology therapy management of follow up and additional data need to be recorded. Keeping this kind of log reduces the possibility of errors in oncology therapy and essentially improving communication and overall function of the tumor board. It is more likely for head and neck cancer patients to receive better and more accurate staging, as well as optimal oncology therapy [19].

A possibly more important instrument to detect errors in tumor board functioning is to audit decision-making for patients that have a poorer outcome than general cancer patients' population [20]. Clinical outcomes from audit are a useful tool to assess decision-making from the tumor board along with assessment of performance in terms of communication, decision implementation, time lapsed from decision to therapy, cost effectiveness and patience quality of life and satisfaction level [21].

Conclusions

Tumor board efficacy has been proven throughout specialty literature. Key points such as subspecialty radiology, log scripts and national head and neck cancer registry need to be updated and included in good clinical practice. Patient satisfaction comes from coherent communication of medical data from their physician, with direct implications on quality of life and self-determination. Data analysis for individual cases, molecular tumor board, data binging, biobanks and genomic engineering are still on a developing trend and might be the solution for recurrent cancer or refractory cancer. Nevertheless, academic hospitals need to have a decisive role in implementing tumor board telemedicine conferences with local hospitals.

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