

Tumour Boards in Geriatric Oncology

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ABSTRACT

Multidisciplinary tumour board (MDT) is an integral part of cancer treatment planning. Although no definite survival benefits have yet been shown by mostly observational studies, other benefits of MDT have been identified. Traditionally the MDT involves participation of treating clinicians – medical, radiation and surgical oncologists. They tend to focus on the cancer alone. There is an increasing awareness that the treatment goal for cancer in older adults is not primarily on prolonging survival, with functional preservation and quality of life being particularly important for this population. The use of comprehensive geriatric assessment and the input of the geriatrician in informing the oncologists regarding treatment decision have increasingly been shown to be beneficial. The integration of the geriatrician into an MDT should be urgently explored.

Introduction and concept of tumour board

Initial treatment planning for a newly diagnosed malignancy can be complex, even if only considering the biology of the tumour and its anatomic extent. Particularly when potentially curable, treatment may include some combination of surgery, radiation and/or chemotherapy, either singly, combined or sequentially. Multidisciplinary treatment planning incorporates the perspectives of surgical oncologists, radiation oncologists, medical oncologists, pathologists and radiologists, conversations which may be facilitated in a meeting commonly called “Tumour Board” or “Multidisciplinary Tumour Board (MDT).” Some tumour boards cover multiple tumour types; others are specific to certain malignancies, such as breast cancer or lung cancer. Regardless of the specifics, the goal of an MDT is to discuss and ideally arrive at consensus on the most appropriate treatment options to recommend. Traditionally, MDTs do not incorporate the expertise of geriatricians in treatment planning.

While observational studies of outcomes associated with MDT have not shown a survival benefit^{1,2}, a number of benefits have been observed. Patients who were cared for by physicians who participate in an MDT were more likely to enrol in clinical trials¹. This study did not examine patient participation by age, but given the underrepresentation of older adults with cancer trials, increased trial enrolment will help improve the generalisability of our knowledge. Additional benefits of MDT included a greater likelihood of patients undergoing curative-intent lung cancer surgery for early stage cancers. In the subgroups of patients with advanced colon cancer or extensive stage small cell lung cancer, mortality was reduced when their physicians participated in an MDT. In another study, patients with cancer treated in centres where a palliative care specialist participated in the MDT were less likely to present to an emergency department within 30 days of the end-of-life.³ Because no randomized trials have been performed, it is possible that factors other than the presence or composition of the MDT contributed to these better outcomes, such as palliative care participation in MDT simply implying that those institutions also had greater access to palliative care specialists in general.

Role of medical oncologist

Because the treatments they render are delivered systemically (either orally or parenterally), medical oncologists tend to view cancer as a systemic disease. Systemic therapy may be administered concurrently with radiation in the curative setting to improve the efficacy of the radiation, sequentially following surgery as an adjuvant therapy, or alone (either to lengthen survival when cure is not possible, or in a curative setting in selected chemosensitive malignancies). Considerations for including conventional chemotherapy or newer targeted agents include an estimate of the patient's risk of toxicity of therapy. Traditional considerations for recommending systemic therapy include adequate organ function to administer a particular agent (e.g. adequate renal function for a renally cleared drug) and a

very basic assessment of function (e.g. ECOG performance status). However, there is increasing recognition of the utility of geriatric assessment in predicting toxicity of chemotherapy^{4,5}. Such tools have not yet been validated when chemotherapy is administered concurrently with radiation, nor for the burgeoning armamentarium of so-called targeted therapies. In addition, the in-depth geriatric assessment data may not be available at the time of the MDT to aid in estimating the patient's risk.

Role of radiation oncologist

The aim of radiotherapy is to provide local control. Therefore, toxicity is limited to the treatment site. A radiation oncologist's primary concern is any existing limitations in that localised area, which may compromise an older patient's response to a course of treatment. Other age-related concerns include mobility and the ability to tolerate the radiotherapy treatment position for a given period each day. Radiotherapy can either be radical/curative or palliative, with the latter aimed at providing symptom control, rather than cure. This may be recommended when a radiation oncologist judges a more curative approach to be too toxic, or of little benefit in the patient's overall management. Radiotherapy is generally very well tolerated in older patients⁶, and increasingly radiation oncologists can offer shorter courses of treatment (hypofractionation or stereotactic radiotherapy), even in a curative setting, which are highly advantageous for older patients who may have difficulty accessing a radiotherapy facility.

Role of surgical oncologist

Surgery is part of a multi-modality management approach. It aims to provide further staging information and to achieve cure in most cases of primary solid malignancies. Discussion at an MDT is beneficial, regarding adequacy of excision (e.g. in terms of margins) and operative staging (e.g. nodal status), with other disciplines (e.g. pathologist and radiologist,

who play a significant diagnostic role), as well as with other oncologists, in order to come up with the best possible treatment decision after or before surgery (e.g. adjuvant or neoadjuvant radiation and/or systemic therapy). Functional preservation is an important goal of surgery for older adults with cancer, as echoed by surgical oncologists (as opposed to survival alone) in an international survey⁷. The MDT helps overcome one of the ongoing challenges i.e. to select the right patient for surgery, following which the question of how to optimise the patient once selected becomes vital⁸.

Role of geriatrician

The geriatric collaboration may be crucial in a MDT. Comprehensive geriatric assessment (CGA) allows the team to identify the patient's performance and to classify them as fit, unfit, frail. This differentiation provides a better framework for considering the patient's therapeutic options, as evidenced by a systematic review of the use of geriatric assessment in older adults with cancer which showed that CGA influenced the oncologists' treatment decision approximately 40-50% of the time.⁹ Furthermore, the geriatrician can identify the age-related physiological changes, the patient's limitations and, on this basis, help reshape the treatment scenario and suggest better treatment options, both for the malignancy as well as other geriatric syndromes¹⁰. To date, several studies of CGA have not resulted in improved outcomes.¹¹⁻¹⁴ In the study of older adults with lung cancer by Corre et al, where patient treatment was stratified based on CGA, cancer-focused outcomes did not improve. Yet these may not be the outcomes of greatest importance to older adults. In addition, in this study, no intervention was undertaken based on vulnerabilities identified by the brief geriatric assessment. Thus, a geriatrician brings the perspective of focusing on improving the quality of life, maintaining the patient's performance, and reducing treatment-related toxicity. In addition, interpretation of the CGA in frail older patients with cancer should be done by a geriatrician, who, if necessary, can follow the patient over time, recommend

interventions for deficits identified by CGA and collaborate with the oncologist in making cancer treatment recommendations.

Conclusions

To add to what has been said earlier, MDT may produce some intangible benefits – members learn from one another, hear about new or emerging knowledge, techniques or clinical trials, and build collaborations and rapport. From merely conducting it as a regular meeting, the concept of MDT could be further developed into a multidisciplinary service or clinic, with treating subspecialties seeing patients concurrently or sequentially [8].

Traditionally MDT is dominated by medical, radiation and surgical oncology subspecialists, who tend to put their focus on the cancer alone. In the context of caring for older adults with cancer, it is pivotal to integrate geriatrics into MDT, though the precise set-up may vary between centres. Along a similar line, this may pave the way to develop a dedicated geriatric oncology service. There is an immense need to incorporate geriatric principles into all aspects of oncology care. Adult oncologists need to become geriatric oncologists to adequately evaluate and care for their patient.¹⁵ As the evidence for the utility of CGA in the care of older adults with cancer grows, research demonstrating the benefit of incorporating principles of geriatrics into MDT will strengthen the imperative.

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