Multidisciplinary Team Approach in Cancer Care: A Review of The Latest Advancements

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Abstract

The management of patients with cancer is complex and requires contribution from a range of healthcare professionals working alongside specialist oncology consultants to address patients' needs and optimise outcomes. A co-ordinated, multidisciplinary team (MDT) approach enables shared decision-making and comprehensive care of patients with cancer through a variety of medical specialties and support initiatives. MDT care has been shown to result in improved overall survival and decreased rates of disease recurrence compared with standard of care in patients with lung or breast cancer. Overall survival was also improved with MDT assessment in patients with colorectal, colon, oesophageal, or metastatic castration-resistant prostate cancer. Molecular MDTs formed to generate personalised recommendations tailored to the genetic footprint of individual patients are a crucial platform for treatment guidance and clinical management in precision oncology. Strategies to leverage the MDT approach include a wider and more standardised implementation of MDTs in cancer care, building the expertise of MDTs in delivering complex multi-modality treatments, exploration of patient-related outcomes, multi-level interventions addressing systemic and attitudinal barriers as well as knowledge gaps, and development of agreed evidence-based protocols and referral pathways. Characteristics of an effective MDT include strong collaboration, with high levels of partnership, co-operation, equality, and interdependency incorporated explicitly into meeting systems to achieve a common goal. MDTs with team- and task-based characteristics and practices support best practices and optimise functionality. The rapid shift from in-person to virtual MDT meetings necessitated by the COVID-19 pandemic enabled continued communication, high-quality discussions, and effective co-ordination of patient care. Many clinicians believe that virtual MDTs will be the future of cancer care.

INTRODUCTION

The management of patients with cancer is complex and requires contribution from a range of healthcare professionals working alongside specialist oncology consultants to address patients' needs and optimise outcomes. A co-ordinated, MDT approach enables shared decision-making and comprehensive care of patients with cancer through a variety of medical specialties and support initiatives.[1-4] As well as diagnosing and treating the disease, MDTs provide support for the social, psychological, dietary, and physical needs, and survivorship of patients with cancer based on the patients' individual preferences and circumstances.[1-3] Referral to an MDT is likely in complex cases that do not fit neatly into standard diagnostic/treatment algorithms, and/or when there are significant changes to the patient's condition and further treatment options need to be considered.[5] Most patients appear to be in favour of multidisciplinary care.[6]

An MDT approach is considered the gold standard for diagnosis and treatment of cancer and is an evolving area of oncology.[7-9] This article discusses the latest advancements in MDTs in cancer care published in 2020 and early 2021, including highlights from the 2021 American Society of Clinical Oncology (ASCO) Annual Meeting.

MEMBERS OF THE MULTIDISCIPLINARY TEAM

Core Group of Specialists

The MDT comprises a core group of specialists from disciplines including medical oncology, radiation oncology, radiology, haematology, pathology, nuclear medicine, surgery (including vascular surgery), and nursing.[3,10,11] Regular MDT meetings provide a forum for this core group to discuss patient cases in terms of key radiographic and pathological findings; diagnostic and/or therapeutic options and the best approach for each patient; integration of evidence-based guidelines and treatment options; and communication of clinical trial findings.[2]

Additional Members

Additional members, who provide advice to the MDT and/or supplementary care to patients but may not be required to attend regular MDT meetings, include professionals in the areas of palliative care, anaesthesia/intensive care, interventional radiology, oncology pharmacy, teenage/young adult cancer services, geriatric oncology, rehabilitation, immunology, clinical psychology/psychiatry, occupational therapy, dietetics, physiotherapy, and transplant services.[1,3] Allied professionals include primary care doctors, community nurses, social workers, and pain specialists.[1]

IMPACT OF MULTIDISCIPLINARY CARE ON PATIENT OUTCOMES IN LUNG CANCER

A Multidisciplinary Team Approach in Lung Cancer Care

Lung cancer is the second most commonly diagnosed cancer (after female breast cancer), and the leading cause of cancer-related death worldwide.[12-14] This disease is a major healthcare burden with complex diagnosis and treatment challenges and variable treatment patterns; hence there has been considerable research into using an MDT approach in lung cancer care to improve patient management and outcomes.[1,15] Berghmans et al.[1] specified that care of patients with lung cancer must only be carried out in lung cancer units that have a core MDT and an extended team of healthcare professionals available; however, such units are far from universal in European countries.

Assessing the Impact of the Multidisciplinary Team in Lung Cancer Care

Accurate staging of lung cancer is vital in determining stage-appropriate treatment and prognosis. Implementation of thoracic MDTs has resulted in more focused and timely investigations for histopathologic diagnosis and disease staging, which translate into earlier treatment initiation.[16]

Longitudinal data are limited regarding the impact of an MDT approach on patient outcomes

among those diagnosed with lung cancer.[17] Observational studies indicate that integrated and co-ordinated care increases adherence to clinical guidelines, significantly shortens the interval from diagnosis to treatment, and may increase survival and quality of life.[13] However, the real impact of multidisciplinary care on treatment outcomes is difficult to assess because of parallel implementation of new effective therapies, such as tyrosine kinase inhibitors or immune checkpoint inhibitors (ICIs).[13]

Impact of an MDT Approach on Overall Survival in Patients with Lung Cancer

The impact of a thoracic MDT on lung cancer care quality and survival was assessed by Gaudioso et al.,[18] who compared survival rates and treatment plans of 300 patients presented to the MDT with those of 300 matched patients (controls). National Comprehensive Cancer Network (NCCN) guidelines were used to define the standard of care.[19] There was longer median overall survival (36.9 versus 19.3 months; p<0.001) and cancer-specific survival (48 versus 28.1 months; p<0.001) for MDT cases compared with controls.[18] Compliance of treatment plans with NCCN guidelines improved from 80% to 94% (p<0.001) following MDT discussion. Furthermore, 41% (123/300) of patients in the MDT group had their treatment plan changed following recommendations by the MDT. These results indicate that patients with lung cancer have a survival benefit from MDT discussion compared with controls, with patients with advanced disease deriving the greatest benefit.[18]

MDT discussion was also shown by Hung et al.[20] to result in a survival benefit for patients with Stage III non-small-cell lung cancer (NSCLC) in a study of 515 patients. Median survival was 33.9 months for all patients, 41.2 months for patients who were treated after MDT discussion, and 25.7 months for patients treated without MDT discussion (p=0.018). Median survival was 39.4 and 25.7 months for patients with Stage IIIA and Stage IIIB tumours, respectively (p=0.141). Multivariate analysis showed that MDT discussion was a significant prognostic factor (p<0.001).[20]

Positive Effect of a Multidisciplinary Team Approach on Disease Recurrence in Patients with Lung Cancer

Further evidence of the positive effects of an MDT approach on lung cancer outcomes was provided by Nemesure et al.[17] who reported that a greater proportion of patients who participated in an MDT programme (n=1,179) remained disease-free at 1 year compared with those receiving standard of care (n=865) (80.0% versus 62.3%, p<0.01). There were no significant changes in mortality over a 10-year observation period in either group; however, the rates were significantly lower among MDT versus non-MDT cases after adjusting for possible confounders (odds ratio [OR], 0.68 at 1 year and 0.50 at 3 years). Recurrence was also lower at 3 years in the MDT group (OR, 0.51). Nemesure et al. concluded that a comprehensive MDT programme for lung cancer yields improved patient outcomes compared with standard of care and this approach may help to decrease rates of disease recurrence and mortality.[17]

MULTIDISCIPLINARY TEAMS IN BREAST CANCER CARE

Multidisciplinary Team Care is Associated with a Lower Relative Risk of Recurrence in Patients with Breast Cancer

Tsai et al.[21] analysed the influence of MDT on the risk of recurrence and death in newly diagnosed patients with breast cancer (9,266 enrolled in each of MDT care and standard care). Relative risk of recurrence was lower for patients who received MDT care than for patients who did not (hazard ratio [HR], 0.84; 95% confidence interval [CI], 0.70–0.99). Mortality risk for breast cancer patients with relapse was 8.48 times (95% CI, 7.53–9.54) that for patients without relapse. The study authors indicated that MDT care was associated with a substantially lower relative risk of recurrence and death in patients with breast cancer.[21]

Optimal Care of Sarcoma of the Breast Requires Multidisciplinary Involvement

Sarcoma of the breast is extremely rare and differs from epithelial breast carcinomas in staging and treatment.[22] Local recurrence rates for breast sarcoma are high and prognosis remains poor.[22] According to Chugh,[23] optimal care of breast sarcoma requires multidisciplinary involvement, including early recognition

by patients, primary care physicians and oncologists; accurate diagnosis via radiology and pathology; and effective treatment comprising surgical, medical and radiation oncology.[22]

A MULTIDISCIPLINARY TEAM APPROACH IS RECOMMENDED IN HEPATOCELLULAR CARCINOMA

Hepatocellular carcinoma (HCC) is a leading cause of cancer mortality.[24] The management of HCC is complex and the risk of mortality is an accumulation of both tumour-related factors and liver decompensation.[25,26] An MDT approach has been recommended to improve the outcomes of HCC, as it ensures assimilation of input from a diverse group of care-providers,[26] and provides a tailored treatment approach that encompasses factors such as tumour burden, severity of liver dysfunction, medical comorbidities, local expertise, and patient preference.[25]

IMPACT OF A MULTIDISCIPLINARY TEAM APPROACH ON OUTCOMES IN PATIENTS WITH COLORECTAL CANCER

A meta-analysis by Peng et al.[27] comprising 30,814 patients with colorectal cancer (CRC) showed that patients for whom there was an MDT approach had better overall survival than those with a non-MDT approach (HR, 0.81; 95% CI, 0.69–0.94; p=0.005). Subgroup analysis of Stage IV CRC also showed better overall survival in the MDT group compared with the non-MDT group (HR, 0.73; 95% CI, 0.59–0.90; p=0.004). There was no significant difference in post-operative mortality between the groups (OR, 0.84; 95% CI, 0.44–1.61; p=0.60). Peng et al.[27] concluded that an MDT approach could improve overall survival in patients with CRC.

Van der Vlies et al.[28] reported that implementation of pre-operative MDT evaluation for frail patients aged ≥70 years with CRC improved risk stratification and prehabilitation, resulting in comparable post-operative outcomes compared with non-frail patients; however, frail patients were at increased risk for worse overall survival.

BENEFITS OF A MULTIDISCIPLINARY TEAM APPROACH IN COLON CANCER

Rosander et al.[29] conducted a population-based cohort study to establish whether pre-operative MDT assessment affected prognosis in patients with primary, locally advanced colon cancer who underwent elective colon resection. MDT assessment was performed in 2,663 (84.4%) of 3,157 eligible patients. Three-year colon-cancer-specific survival was higher following MDT compared with no MDT assessment (80% versus 68%), and MDT assessment was independently associated with reduced colon cancer-specific mortality (HR, 0.70; 95% CI, 0.57–0.84). Rosander et al. concluded that pre-operative MDT assessment is associated with improved long-term survival in patients with locally advanced colon cancer and should be mandatory in patients with suspected locally advanced colon cancer.[29]

EFFECT OF MULTIDISCIPLINARY TEAM COLLABORATION ON SURVIVAL IN PATIENTS WITH OESOPHAGEAL CANCER

MDT collaboration was reported by Zhao et al.[30] to be an independent prognostic factor for overall survival in patients with oesophageal cancer who underwent radiotherapy (HR, 0.59; 95% CI, 0.38–0.92; p=0.019), which was considered most likely to be due to a greater selection of multi-modality treatment compared with in the non-MDT setting.

Further evidence of the benefit of MDTs in oesophageal cancer care was provided by Huang et al.[31] who noted that MDTs were a favourable survival factor (p<0.05), and that MDT participants showed lower risk of death (HR, 0.73; 95% CI, 0.67–0.79) compared with non-MDT patients. Further stratification analysis showed that the incorporation of MDTs reduced the risk of death in patients with Stages II, III, and IV cancer, with the greatest reduction in patients with Stage III (HR, 0.72; 95% CI, 0.67–0.79).[31]

MULTIDISCIPLINARY TEAMS IN COLORECTAL, HEPATOBILIARY, PANCREATIC, AND GASTRIC CANCER CARE

The impact of optional MDT meetings on mortality of patients with specific

gastrointestinal cancers was evaluated by Basendowah et al.[32] in a retrospective observational study. Patients with colorectal, hepatobiliary, pancreatic, or gastric cancer, but not small bowel or oesophageal cancer, were included in the study.

Overall mortality at 2 years was 13% (95% CI, 0.06–0.66) in the MDT group and 38% (95% CI, 0.10–0.39) in the non-MDT group (p=0.08). The MDT group showed a 72% (adjusted HR, 0.28; 95% CI, 0.08–0.90; p=0.03) decrease in mortality over time compared with the non-MDT group. Basendowah et al. considered MDTs to have a positive influence on patient care by improving survival and concluded that they should be incorporated into standard care.[32]

In contrast, Chen et al.[33] stated that MDT consultation had a limited effect on staging accuracy and treatment outcomes, including survival, of patients with resectable gastric cancer; however, they suggested that poor patient compliance may have been a factor impacting the effectiveness of MDT consultation.

MULTIDISCIPLINARY CARE IN UROLOGICAL CANCERS

The application of MDT care is a rapidly growing trend in uro-oncology.[34] The MDT has an important role in shared decision-making for males with advanced prostate cancer to ensure best practice care, particularly as the treatment options for this disease continue to evolve.[34]

An MDT approach has been reported by Zhu et al.[35] to improve the prognosis of patients with metastatic castration-resistant prostate cancer. Participating in MDT discussions was a favourable independent indicator of longer overall survival (median overall survival with and without MDT: 39.7 versus 27.0 months; HR, 0.549; p=0.001). Moreover, this survival benefit remained in subgroups of patients receiving first-line therapy (not reached versus 27.0 months; p=0.001) and multi-line therapy (36.7 versus 25.6 months; p=0.044) until the end of follow-up.

In a study by Gil et al.,[36] MDT conferences had an important impact in the management of 38.2% of urinary and male-genital cancer cases. The study authors recommended that all patients with urological malignancies are referred to MDT review to ensure optimal clinical care.

Analysis of survey data by Warner et al.[8] showed that most urology respondents (87%) agreed that some patients could be managed outside a full MDT discussion. The authors suggested that urology MDT members support a change from reviewing all new cancer diagnoses to discussing only complex cases (e.g., rare tumour type, cognitive impairment, previous treatment failure) and managing all other cases with a more protocolised pathway.[8]

A MULTIDISCIPLINARY APPROACH IS VITAL IN SOFT TISSUE SARCOMAS

Nakayama et al.[37] proposed that given the rarity, variety and complexity of soft-tissue sarcomas, a multidisciplinary approach is vital to improve patient outcomes. In line with this, He et al.[38] reported that patients with primary intrathoracic synovial sarcoma who were managed by an MDT had longer median overall survival than those who were not (46.0 versus 18.0 months, p=0.480). They concluded that MDT management can help clinicians obtain accurate diagnoses and provide reasonable therapeutic options.[38]

IMPACT OF MULTIDISCIPLINARY CARE IN PITUITARY ADENOMA SURGERY

In a retrospective cohort study by Grayson et al.,[39] outcomes of pituitary adenoma surgery improved after the introduction of an MDT, with more clinically functioning tumours treated (42% versus 28%, p=0.03), shorter hospital stays (5 versus 7 days, p<0.001), and less common intrasellar residuals (8% versus 35%, p<0.001).[39]

MULTIDISCIPLINARY TEAMS AND PRECISION ONCOLOGY

Molecular MDTs formed to generate personalised recommendations tailored to the genetic footprint of individual patients were first established with the onset of precision oncology (PO), as many clinicians were unfamiliar with the interpretation of results and incorporation of the information into clinical practice.[40] PO has rapidly evolved and is now integrated into standard of care practices for most patients with cancer;

however, molecular MDTs have not evolved accordingly and there is a paucity of data on their value and impact.[40]

A retrospective review by Sadaps et al.[40] of patients with a solid tumour malignancy who had large panel, next-generation-sequencing (NGS) pinpointed 173 complex cases that were flagged for discussion by a molecular MDT.[39] These discussions resulted in a change in treatment recommendation in 63/173 (36.4%) cases. The authors considered molecular MDTs to be a crucial platform for treatment guidance and clinical management, particularly given the increase in actionability due to newly discovered targets and targeted therapies in this rapidly evolving field.[40]

Marrone et al.[41] acknowledged that the accelerated impact of NGS in clinical decision-making requires the integration of cancer genomics and PO-focused training into medical oncology education. Exposure to experts in the field of molecular PO, identification of resources necessary to interpret clinical NGS reports, development of the ability to critically assess various NGS platforms, and familiarity with computational analyses relevant to clinical decision-making are key educational topics. Continued education is vital to understanding how best to facilitate adaptive expertise in assigning clinical relevance to genomic findings, ultimately improving precision medicine delivery in patient care and trial development.[41]

MULTIDISCIPLINARY TEAM APPROACH AS A STRATEGY TO SUPPORT MANAGEMENT OF RURAL PATIENTS WITH CANCER

Rural cancer patients often lack access to high-volume cancer specialists, which can lead to fragmented cancer care.[42] Strategies proposed by DePuccio et al.[42] to improve cross-institutional collaboration and coordination of pancreatic cancer care for rural patients included development and implementation of communication systems to facilitate real-time discussions, and information sharing between high-volume and rural specialists to co-ordinate diagnostic and treatment plans.[41] Cross-institutional virtual MDTs were viewed as a potentially useful approach to foster shared clinical decision-making and treatment plan development across institutions, but specialists acknowledged that logistical, institutional, and technological challenges could limit the use of this approach.[42]

MULTIDISCIPLINARY TEAMS FOCUSING ON IMMUNE-RELATED ADVERSE EVENTS

Boruah et al.[43] alluded to the often atypical and diverse presentation of immune-related adverse events (irAEs) experienced by patients with cancer on ICI therapy and suggested that utilisation of an irAEs MDT might be an effective strategy to deliver optimal care to patients experiencing these effects. In line with this, Zubiri et al.[44] highlighted that irAEs in patients receiving ICI therapy are a significant clinical challenge and that establishing a highly subspecialised care team focused on irAEs could be associated with improved clinical outcomes, including reduced irAE readmission rates.[43] A multidisciplinary approach that enables early identification, diagnosis, and treatment of specific irAEs, ruling out other non-related adverse events, was also advocated by Londoño et al.[45]

IMPROVING THE MULTIDISCIPLINARY TEAM APPROACH

Although MDTs are considered an essential part of cancer care decision making, how they perform varies widely.[46,47]

Potential Key Performance Indicators to Assess Multidisciplinary Team Efficiency

MDT meetings integrate complex information and recommendations for clinical management are based on interdisciplinary and multiprofessional decision-making.[48] An important step in the MDT approach is to identify key performance indicators (KPIs) and quality metrics to track the quality of care received.[49] There is a need for clear, evidence-based clinical practice guidelines for the conduct of MDT meetings, with accepted standards and objective measures of performance.[50]

KPIs are used to monitor the development, performance and improvement of MDTs and their meetings. The focus of many of these KPIs is on the structure and process of the MDT meeting, rather than the outcome of the meeting, and may include how the MDT functions as a cohesive team, and the role of the MDT in staging and treatment planning for individuals with a suspected or confirmed diagnosis of cancer.[51]

Outcome-based KPIs may include the number of patients with cancer who have had their care overseen by an MDT by stage of disease; number of patients with cancer who have their care overseen by an MDT prior to commencement of any treatment modality by stage of disease; proportion of patients for whom documentation of their planned treatment is sent to the patients' general practitioner within a set time of an MDT meeting, or any other time point along the treatment pathway; and the median time from MDT to general practitioner communication.[51]

The efficiency of the MDT may also be measured in terms of quality indicators, such as the number of patients included in more than one session of the MDT as a proportion of the number of patients reviewed at the MDT meeting because the repeated presentation of cases without the necessary tests for decision-making is one of the main causes of inefficiency of MDTs.[52]

Navigating Diagnostic and Treatment Decisions in Non-Small-Cell Lung Cancer

Popat et al.[5] proposed that a wider and more standardised implementation of MDTs in NSCLC care could help to address several decision-based factors that influence patient outcomes, including differences in local guidelines and procedures, or the type of treating centre and referral route. A sound understanding of current therapy data, identification of patient suitability for clinical trial enrolment, adverse event management, and patient preference are also important in the decision-making process.[5]

Evison[53] noted there is no clearly superior multi-modality regimen for resectable Stage III NSCLC; therefore, patient choice, shared decision-making and the expertise of the treating MDT are critical in defining the most appropriate treatment regimen for each patient. They highlighted the need to build the expertise of MDTs in delivering complex multi-modality treatments for this challenging disease.[48]

Important aspects of MDT care in lung cancer, defined by Stone,[14] include early introduction of palliative care, optimal staging in the context of the MDT, gaps in understanding of how best to implement and test the effects of MDTs, patient outcomes associated with MDT care, lung cancer surgery in the MDT setting, and optimised approaches to data systems for the MDT. Stone also pinpointed key areas for future work, including implementation of smoking cessation programmes in the multidisciplinary setting, expansion of psycho-oncological support, exploration of patient-related outcomes, and the impact of allied health services, including pulmonary rehabilitation, in the peri-operative period.[14]

Improving Multidisciplinary Team Collaboration and Performance in Cancer Care

The importance and challenges of MDT collaboration in managing lung cancer have been increasingly recognised in an ever more complex therapeutic environment.[18,54] Data from Murray et al.[54] indicated suboptimal knowledge among pulmonologists of the timing of patient referral to an oncologist, and that current MDT practices are perceived as delaying patient care due to significant inefficiencies (e.g., lack of knowledge/skills) and unclear responsibilities within the team. Gaps in knowledge and relevance of genetic biomarker tests according to clinical presentation, and suboptimal skills in identifying biomarker tests to inform the progression of lung cancer were also reported.[54] Murray et al. expressed a need for multi-level interventions addressing systemic and attitudinal barriers as well as knowledge gaps that affect physicians' ability to collaborate in lung cancer care.[54]

According to Evans et al.,[46] a comprehensive, multi-pronged improvement programme and associated annual member survey could strengthen MDT performance across a whole cancer service. Indeed, the initiation of such a programme led to sustained and significant improvement in weak as well as high-performing MDTs and provided insight into priority areas requiring further support.[46]

Wihl et al.[55] highlighted a need to define data elements and develop reporting standards to support robust MDT decision-making. Furthermore, Maharaj et al.[56] advocated that the internal and external organisational structures surrounding MDT meetings need to be strengthened with the development of agreed evidence-based protocols and referral pathways, a focus on resource allocation and capabilities, and a culture that fosters widespread collaboration for all stages of disease.

Strategies identified by Findlay et al.[57] to ensure patient-centred care include early and ongoing access to expert supportive care clinicians, integrated and co-ordinated care, and education of the MDT in accurate and consistent messaging. Multi-component implementation strategies comprising individual, team, and system-level approaches are essential to leverage sustainable change.[58]

Characteristics of an Effective Multidisciplinary Team

A research study by Oureilidis-DeVivo[59] showed that characteristics of highly effective MDTs include strong collaboration, with high levels of partnership, co-operation, equality, and interdependency incorporated explicitly into meeting systems to achieve a common goal. Furthermore, team-based characteristics, such as members' consistent shared preferences and identity, co-ordinated interactions, a collective learning process, and shared power and partnership, were key markers found within more successful MDTs. The authors concluded that MDTs with team- and task-based characteristics and practices support best practices and optimise functionality.[59]

The findings of Oureilidis-DeVivo align with the defined indicators for highly functioning MDTs of the National Cancer Action Team (NCAT) in England, which include team working and culture, personal development and training, and regular meetings and attendance.[59-61]

Developing Resilience of Multidisciplinary Teams

Dubois et al.[62] emphasised the substantial psychological and emotional impact of caring for patients with cancer and the importance of strategies to develop the resilience of MDTs. These include developing new abilities to strengthen the team, creating more suitable work environments, cost-effective interventions that maximise the use of internal resources and improve existing processes, and generating resources (e.g., communication and assessment tools).[55]

Medicolegal Considerations in Multidisciplinary Cancer Care

According to Karas et al.,[63] the legal requirements of MDT care have not been extensively described or standardised, and MDTs may not be aware of their medicolegal obligations, which include patient consent and privacy at MDT meetings, professional liability, formal expression of dissenting views, and duty of care. These authors identified formative evidence that may guide the management of these issues in future MDT practice and made a series of recommendations.[63] Klemm and Lehman[64] advised that in practice, there are only limited opportunities for an MDT to be liable for patient outcomes and suggested that careful documentation and representation of cases, where appropriate, could further mitigate this risk.

The medicolegal concerns surrounding MDTs were emphasised by a national audit in Australia in 2011, which highlighted gaps in care and the legal implications for clinicians.[65] One-third of patients were not informed that their case would be discussed by the MDT, patient consent was not sought for one-half of the cases discussed by the MDT, and in one-quarter of patients the MDT's recommended treatment plan was not noted in the patient record. These areas of neglect may affect the quality of care provided and may put clinicians at medicolegal risk.[65]

The question of culpability over decisions made by the MDT is a contentious one.[66] Currently, all members present at the meeting are responsible for the MDT's decision, but it is unclear whether the onus of decision-making lies with the patient's 'lead clinician', or whether bypassing a consultation with a specialist prior to MDT discussion impacts on this.[66] Such uncertainties mean that there is a substantial risk of legal action against the MDT as a group. According to Ross and Pawa,[66] until case law materialises to provide clarification on these issues, clinicians should improve their

awareness of their medicolegal responsibilities and proceed with caution.

IMPACT OF THE COVID-19 PANDEMIC ON THE MULTIDISCIPLINARY TEAM APPROACH IN CANCER CARE

Shift from In-Person to Virtual Multidisciplinary Team Meetings

The COVID-19 pandemic created unprecedented challenges for healthcare systems, and forced a rapid shift from in-person to virtual MDT meetings.[67,68] This shift was essential as suspension of MDT meetings during the pandemic was one of several factors reported to be significantly associated with delays in diagnosis and treatment of patients with cancer.[69] Virtual MDT meetings increased the opportunity for participation and interaction, and enabled continued communication, high-quality discussions, and effective co-ordination of patient care.[2,70]

Positive feedback from clinicians about the move to virtual MDT meetings included unchanged decision-making, appropriate depth of discussion, and improved aspects of communication (e.g., sharing images/slides), with worse engagement, teamworking, and training notable perceived deficiencies.[68,71] Many clinicians believed that virtual MDTs would be the future of cancer care.[2,68] Strategies to optimise remote meetings include information technology support and management of distractions.[72]

Virtual Multidisciplinary Support for Patients with Breast Cancer

Labra et al.[67] outlined the structural adjustments to multidisciplinary care for young women with breast cancer to provide distance care (phone/video calls, text messages, virtual workshops) during the COVID-19 pandemic.[67] Females who received virtual multidisciplinary support had fewer concerns about oncology treatments and their side effects and less emotional distress compared with those who received standard of care. According to Labra et al., multidisciplinary care could be preserved by combining care provision physically and virtually depending on patients' resources or unmet needs.[67]

PATIENT ADVOCATE PERSPECTIVE: THE CANCER CARE TEAM IS "ABSOLUTELY IMPORTANT"

Draft[73] emphasised that the cancer care team is "absolutely important" and the "competence of the care team is critical to show how a survivor is going to be treated." According to Draft, care teams comprising social workers, nurses, and primary care doctors in addition to medical and radiology oncologists and surgeons are essential, as is the community around the patient. Draft underlined the need to have not only "people in the room together" but those who are up-to-date on new ideas and innovations and who have access to mentors when needed to ensure the best possible treatment for the patient.[73]

CONCLUSION

A co-ordinated MDT approach in the management of patients with cancer enables shared decision-making and comprehensive care through a variety of medical specialties and support initiatives. An MDT approach is considered the gold standard for diagnosis and treatment of cancer. This review provides the latest advancements in this important and evolving area of oncology. Much of the recent work on MDTs has been in patients with lung cancer, in whom MDT discussion, conferences, or programmes have been shown to result in improved overall survival and decreased rates of recurrence compared with non-MDT care. Similar findings have been reported in patients with breast cancer. The effectiveness of MDT assessment in terms of improved overall survival has also been highlighted by studies in patients with colorectal, colon, oesophageal, or metastatic castration-resistant prostate cancer. Several strategies to improve MDT performance have been proposed recently, including a wider and more standardised implementation of MDTs in cancer care, building the resilience of MDTs, increasing the expertise of MDTs in delivering complex multi-modality treatments, and initiating multi-level interventions addressing systemic and attitudinal barriers as well as knowledge gaps. These strategies build on previously defined indicators for highly functioning MDTs, including team working and culture, personal development and training, and regular meetings

and attendance. The rapid shift from in-person to virtual MDT meetings necessitated by the COVID-19 pandemic enabled continued communication, high-quality discussions, and effective co-ordination of patient care. Many clinicians believe that virtual MDTs will be the future of cancer care. Recent research in this important area has provided further confirmation of the positive effects of an MDT approach in cancer care. Future interventions to address systemic and attitudinal barriers as well as knowledge gaps and suboptimal skills in the MDT, research to define KPIs and quality measures and establish a definition of culpability, and an increased understanding of medicolegal implications will further improve MDT practices. This improvement is likely to translate to better management, treatment, quality of life, and outcome for the patient with cancer.

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