MULTIDISCIPLINARY TEAM (MDT) APPROACH TO MANAGEMENT OF MALIGNANT DISEASES: A REVIEW

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ABSTRACT

Background: Multidisciplinary Team meetings (MDTs) in cancer management emphasize collaborative decision making and treatment planning among core members of the specialties relevant to an index case, who come together to share their knowledge and make recommendations for an ‘all-inclusive’ patient management. MDTs are aimed at improving cancer outcomes by providing a team approach to care and ensuring that patients get the right treatment in optimum time.

Objectives: To examine the challenges facing the use of MDTs in the management of cancer in Nigeria and proffer solutions to these by drawing from clinical experience garnered in the UK.

Methods: Information was gleaned from scientific articles published on the benefits of MDTs and practical examples were drawn from MDTs conducted at St. James’s University Hospital, Leeds, UK.

Results: Overall, the use of MDTs is virtually non-existent in Nigeria and is long overdue. Challenges to setting up regular MDT meetings in Nigeria include the lack of required infrastructure, absence of an organised MDT structure and paucity of trained staff. These challenges can be overcome first, by making MDTs mandatory as a policy in cancer patient management. There should also be provision of required infrastructure, setting up broad based MDTs and regional teams, and employment of much needed well trained staff.

Conclusion: The role of MDTs in cancer patient management cannot be overemphasized for optimal patient care and moreso in Nigeria, with lean healthcare resources and where a singular surgical procedure may be all many a patient could possibly afford and therefore need to be well planned for.

Keywords: Multidisciplinary Team Meetings (MDTs), cancer, management, patient, Nigerian

INTRODUCTION

Cancer incidence worldwide is on the increase, there is therefore a need for prompt diagnosis and appropriate treatment because of its associated morbidity and mortality. Although there is no systematized cancer registration in Nigeria, clinical experience indicates that the country is not exempt from this cancer ‘pandemic’. A recent review showed that at least 2500 histologically confirmed colorectal cancers have been reported in the country (up to 2007) some other reports have suggested a rising incidence, up to as high as four-fold in some regions over five decades⁴.
On the international scene, the rising incidence of cancer has been accompanied by an increase in the available treatment options over the past two decades. For this reason, therapeutic decisions need to be made on good evidence in order to maximize the benefits of therapy. In realisation of the above, many health institutions such as the National Health Service (NHS) in the UK proposes a multidisciplinary team (MDT) approach to the diagnosis and treatment of cancer (Calman K, Hine D. A Policy Framework for Commissioning Cancer Services. 1995; Department of Health). The emphasis is on collaborative decision-making and treatment planning, where the core team members of relevant specialties participate through the MDT meetings to share their knowledge and make collective evidence-based recommendations for patient management. MDT meetings are also known as tumour boards, multidisciplinary cancer conferences, multidisciplinary case reviews or multidisciplinary clinics, in different health care systems. These different terms may represent the variations in the organisational structure, membership, approach, focus, and the decision processes of these meetings. The establishment of MDT meetings is long overdue in Nigeria.

This article explores the role of MDTs in patient management, its attendant benefits and attempts to propose ways in which MDT meetings can be established in Nigeria.

Literature Search Methodology

The following databases were used in the literature search covering 1990 to 2010 – MEDLINE, EMBASE and PubMed. Key words searches on multidisciplinary, MDT, tumour board, cancer and management were used with truncation signs where necessary. The results were combined with the Boolean operators OR + AND as necessary. The references of the initial papers were also checked for other relevant papers.

MDT: How They Work

Pre-MDT era

This represents a largely uni-directional flowchart where decisions are taken independently and not collectively especially by the surgeon. This pathway represents much of what is presently done in Nigeria at the moment. Gary Edward Gross (1987) however, rightly highlighted the fact that cancer is a systemic illness that can rarely be detected, diagnosed, and adequately treated by one physician (surgeon).

MDT era

The main aim of the MDT is to improve cancer outcomes by providing a team approach to care and ensuring that patients get the right treatment in optimum time.

Structure of the MDT

The structure is made up of a chairperson, an MDT coordinator as well as core members and non-core members. The MDT chairperson is usually a surgeon or an oncologist with a tenure of 2-3 years. This individual directs the affairs of the team and plays the middle man between the team and the Hospital Management. The coordinator is a dedicated clerical officer who coordinates the activities of the meetings, ensures a communication channel between members, amongst other duties. The core members are made up of surgeons, clinical and medical oncologists, clinicians, histopathologists, radiologists, and specialist nurses. The core members must attend at least 66% of the meetings per annum. The non-core members may include the hospice care team (palliative care consultants and nurses), pharmacist, social workers, anaesthetists and other physicians as relevant to the specialty and they must attend at least 33% of the meetings per annum. The composition of the MDT.
is essentially the same for most cancer patients as its members are composed of health professionals who are most relevant to diagnosis and treatment for cancer patients.

The MDT Meeting

The meeting is directed by the Chairperson, cases are presented by the clinician treating the patient at the time - surgeon/physician/oncologist. The radiologist and pathologist present their findings and a discussion of the material facts of the case ensues. A treatment plan is formulated by all and summarised by the Chairperson or submitting clinician. The agreed plan is recorded by the Coordinator.

An important post-meeting step is for the Coordinator to prepare the minutes of the meeting indicating the agreed action-plan for each patient that was discussed. This is circulated to all members for their input and a final version is inserted into the patient's case records. The clinician discusses the action plan with the patient or with a nominated caregiver and arrangement is made for the necessary referral. The nurse specialist is mandated to liaise with the patient or a nominated caregiver to explain the action plan regarding their care and provide the patient with relevant information.

Clinical Governance and Quality Assurance of MDT

To maintain clinical governance and quality of MDT, each MDT team is required to have at least one developmental meeting in a year where they evaluate the functioning of the team and address emerging issues. Also each MDT must carry out at least one audit a year and results of such audits are presented at the developmental meeting. The outcomes of issues discussed and results of the audits are used to draw up new or improve existing algorithms and guidelines in the management of patients to improve the patient journey and experience as well as improve performance overall.

Evidence of the Impact of MDT

There are many benefits derivable from the use of MDT in the management of cancer patients as highlighted by many studies. For example, an observational study by Stephens et al. compared the outcomes of oesophageal cancer patients in the period after the introduction of specialist team and regular MDT meetings (1998-2003, n=67) to those of an earlier period when no MDT meetings were held (1991-1997, n=77). Authors reported lower operative mortality (5.7% versus 26 %, p=0.004) and improved 5-year survival (52% versus 10%, p=0.0001) in the MDT group. A population-based before-and-after study compared the survival of patients with invasive cancers, from the Hoag Hospital tumour registry and reported significant improvement in the relative 5 year survival (71% versus 63%, p < 0.001) in favour of MDT group.

The study of patient satisfaction in newly diagnosed breast cancer patients before and after the establishment of multidisciplinary breast clinics, reported in favour of the MDT group (p < 0.001). In an audit study, Burton et al. compared preoperative MRI in consultation in MDT meeting to preoperative MRI without MDT consultation in rectal cancer patients. They reported that the incidence of positive circumferential resection margin (CRM) was significantly higher in the group without MDT consultation (26% versus 1%). A Scottish study reviewed outcomes of ovarian cancer patients treated in 1987 (N=533) and found a survival difference between patients managed through a multidisciplinary clinic (MDC) and those not managed through an MDC (p < 0.001)

Back et al. retrospectively reviewed the patients referred to a large radiation therapy centre in Singapore between 2002 and 2006. They reported an increase in the proportion of patients receiving chemotherapy for high grade glioma (55% versus 17 %) and also an increase in the number of patients receiving postoperative imaging within 5 days of surgery in the former group (86% versus 59%) both in favour of MDT group. In a study comparing the staging accuracy of individual imaging modalities, endoscopic ultrasonography (EUS), CT scan, and Laparoscopic ultrasonography (LUS) for gastric and oesophageal cancer against that of collective MDT staging found that collective MDT staging was more accurate compared with any individual imaging techniques.

Setting Up and Sustaining MDTs in Nigeria: Potential Challenges and Proffered Solutions

1. Acquiring the requisite equipment and training of personnel

The cost of acquiring infrastructure and personnel for an effective MDT meeting

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could be quite enormous. Government participation as adequate funding is required to run an effective program, to train and retrain staff and acquire necessary equipment.

2. **Lack of organisational structure**

   A proper and well documented organisational structure is needed with well defined role descriptions for each member of the team. Members of the team need to be dedicated and have these meetings embedded into their job description.

3. **Having a dedicated clerical officer (MDT Coordinator)**

   The success of such a meeting depends largely on having a dedicated clerical officer to organise it. Having a non-medically qualified person performing this role frees the time of the doctors to do their primary duties.

4. **Development of cancer specialist nurses**

   This is an important member of the team that links the doctors and the patients. They communicate much more with the patients and readily available to advise and direct patients appropriately.

5. **MDT should be part of the medics job description**

   For MDTs to run at all and regularly, they must be incorporated into the doctors’ job description just as theatre times or clinics or ward rounds are. MDTs will not work if they are seen as add-ons to the job of the medics, otherwise they will only come if they are highly motivated. It needs to have protected time both for the preparation especially for the radiologists and histopathologists and for the actual attendance by everyone as much as possible.

Other suggestions include tailoring MDTs to the capacity of the institution. A practical example would include having a broad based specialty MDTs e.g. have a GI cancer MDT rather than separate upper and lower GI MDT groups. Each institution can focus on the most prevalent cancers or diseases in their environment. The availability of skilled experts in a particular field may also influence the choice of a particular body organ/system. It may also be more practical to start with one body system and then gradually expand.

Also, having inter-institutional or regional teams will maximize expertise and resources.
example, a team could work between Lagos University Teaching Hospital and Lagos State University Teaching Hospital for rarer cases e.g. neurological cases. One coordinator could cover many cancer sites. Interested companies could be encouraged to sponsor some of the meetings to supplement the support received from the government and the local hospital management.

Although many cancer patients in Nigeria may present to the hospital at advanced stages of the disease thus requiring mainly palliative care, the MDT still plays a major role in determining what the extent of the disease is and deciding on the treatment modalities available or the palliative efforts that may be required. The MDT will also decide when palliative care is most suitable from the onset.

CONCLUSION

Cancer conferences have come a long way in the last 50 years, from a forum for presenting interesting cases to a platform for collaborative day-to-day management of cancer patients. MDT ensures audits and improves the standard of care thereby ensuring patient gets the best available care. Promotion of team building and endless research opportunities are but a few of the values of MDT. There is no doubt cost, personnel and infrastructure amongst others could pose daunting challenges, but with goodwill and patience they are surmountable.

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