

# SITE SPECIFIC MULTI DISCIPLINARY TUMOR BOARDS ARE THE MISSING LINKS IN OUR COMPREHENSIVE CANCER CARE SERVICES

Ahmed Nadeem Abbasi

Department of Oncology, Aga Khan University, Karachi, Pakistan

PJR January - March 2015; 25(1): 29-33

Site specific Tumor Boards are integral part of comprehensive oncological care provision. In the developing countries, we are not fully tuned into this important component of good clinical practice (GCP) which is definitely influencing our overall care outcomes. We are witnessing an initial phase of establishment of site specific Multi Disciplinary Tumor Boards. We are still going through the teething problems which are bound to occur in a country where the concepts of patient centeredness are not yet very well understood by practicing clinicians.

Multidisciplinary Tumor Board (MDT) meetings, sometimes also referred to as multidisciplinary tumor conferences, or multidisciplinary tumor boards, are conducted to involve clinicians from all concerned specialties to discuss diagnostic and treatment options for patients diagnosed with cancer.<sup>1</sup> This improves patient outcome, since it is a well recognized fact that cancer management is not a single person's job.<sup>1</sup> While a number of studies have concluded that these meetings significantly contribute to the better treatment outcomes for patients,<sup>2,3,4</sup> an important question that needs to be addressed is whether it is really necessary to discuss all cancer patients in MDT meetings before embarking on the first management, considering the increased prevalence of cancers all over the world and the increasing time required to discuss relevant tumor cases in these meetings.<sup>5</sup> The literature was searched on internet using search engines such as Pub Med, Google Scholar and Medline with words that included: "multidisciplinary team meetings", "multidisciplinary

tumor board meetings" and "multidisciplinary team management of cancer/tumors". Studies that evaluated outcomes of various cancers in different tumor board meetings and their impact on treatment outcomes for tumors at different sites were included. Specific data such as number of patients involved in the studies, methodology and the outcome of the studies were noted.

According to a retrospective study conducted in France in 2012, MDT meetings did not adversely affect physician-patient relationship and 80% patients said that the decisional process of MDT meetings is supportive for them. According to the physician's perspective, these meetings also helped the treating physician to better communicate the treatment plans to the patients and in most of the cases the decisions taken at MDT meetings were implemented.<sup>6</sup> In another retrospective study conducted in Japan, 475 cases discussed in MDT meeting during March 2012 and June 2011, were reviewed. Of the 475 patients, 42 patients (9%) underwent minor changes in treatment methods and 28 patients (6%) underwent major treatment changes.<sup>7</sup>

In order to assess whether increased burden of tumor cases adversely affects discussion at MDT meetings due to the increasing prevalence of cancers, a prospective study was conducted between December 2009 and January 2010 reviewing 298 cases discussed at a London based MDT meeting. Treatment decisions were reached in 254 of 298 (85%) cases. The study reported that increasing the number of cases discussed per meeting as well as the team

**Correspondence** : Dr. Ahmed Nadeem Abbasi  
Department of Radiation Oncology,  
Aga Khan University Hospital,  
Karachi, Pakistan  
Ph: 0300-9210790  
Email: nadeem.abbasi@aku.edu

Submitted 13 April 2015, Accepted 28 April 2015

members in attendance was associated with better output of these meetings. More time per case also resulted in improved team working.<sup>8</sup>

In 2012, 220 patients availing neuro-oncology services at King's College Hospital, London, were assessed before and after implementation of a pre-operative MDT meeting. It was investigated whether MDT meeting was a cause of delay in time to operation in critical brain tumor patients. It was concluded that pre-operative MDT meeting is safe and does not lengthen time to operation for patients with brain tumors.<sup>9</sup> MDT meetings provide important information for prospective treatment planning for gynecologic malignancies. This was reported by a study conducted in 2008 where 153 patients discussed in 52 weekly MDT meetings were assessed. Treatment plans were changed in 53 cases (34.6%). Major changes (8.5%) predominantly resulted from pathology reassignments. Minor changes (26.14%) resulted from pathology, staging, radiology, and surgical team clarifications.<sup>10</sup>

Another study was conducted prospectively from August 1, 2005, to August 1, 2006, where a total of 509 cases were discussed in MDT meetings during the study period. Forty-six discrepancies (9%) were noted, with 30 major (5.9%) and 16 minor (3.1%) discrepancies. Addition of chemotherapy and surgery constituted the most common changes to patient management that resulted from MDT meetings. This study demonstrates that gynecologic oncology tumor conferences change the treatment strategy in a significant number of cases and therefore affect patient management.<sup>11</sup>

A number of studies have been conducted proving the significant role of MDT meetings in improving lives of patients suffering from upper GI and colorectal cancers. The important role of MDT meetings in improving the diagnosis and TNM staging of tumors was proved by a study conducted in China where 595 cancer patients were reviewed<sup>12</sup> and in another study in Sweden where 303 patients with locally advanced primary rectal cancer were assessed.<sup>13</sup> Another study reviewing 779 patients suffering from gastric and colorectal cancers reported that the treatment strategy was changed after discussion at MDT meeting in 76.81% of gastric cancer patients and in 58.33% of colorectal cancer patients before operation. The sphincter-preservation, local control

of tumor and 5 year survival rates for rectal cancer treatment were better in patients discussed in MDT meeting before embarking on the treatment.<sup>14</sup>

Seven hundred and one men with low-risk prostate cancer managed at three tertiary care centers in Boston were reviewed in a study in 2009. The number of patients selected for active surveillance seen at an MDT meeting was double that of patients seen by individual practitioners (43% vs. 22%). Multidisciplinary care is therefore associated with increased selection of active surveillance in men with low-risk prostate cancer.<sup>15</sup> Breast cancer is one of the commonest cancers worldwide and early diagnosis has a good prognosis. A study conducted in Sweden in 2010 concluded that MDT meetings are essential both preoperatively and postoperatively as they help the pathologists and radiologists to confirm their findings because the most frequent cause of diagnostic failure in breast cancer is inadequate radiological-pathological correlation.<sup>16</sup> At another study conducted in France, 194 cases for breast cancer and 210 cases for sarcoma discussed in MDT meetings were prospectively assessed. Initially treatment strategy was modified for 32% breast cancer patients and 41% sarcoma patients. Thus more than 30% changes were made concerning treatment strategy for patient with cancer due to MDT meetings.<sup>17</sup> Boxer MM et al. reviewed 988 patients, including 504 patients who were presented at MDT meetings and 484 who were not presented at these meetings. They concluded that MDT meeting was associated with a better treatment provision to the patients, being an independent predictor of receiving radiotherapy, chemotherapy and referral to palliative care.<sup>18</sup> The pathology-radiology correlation is also very important for lung cancers as was reported by a study conducted in UK where the gross cancer volume (size of tumor) was changed in 19 out of 20 cases after multidisciplinary discussion.<sup>19</sup>

A study conducted in Australia reviewed the outcomes of 726 cases of primary head and neck cancer patients managed between 1996 and 2008, including those discussed in the MDT meetings and those managed without discussing in an MDT meeting. Stage IV patients who were discussed in an MDT meeting had a significantly improved 5-year survival compared with non-MDT meeting patients and a

more synchronous chemotherapy and radiotherapy.<sup>20</sup> MDT meetings have played an important role in increasing the number of case presentations at oncology conferences which reached an all-time high. A study conducted at a USA hospital (Central Dupage Hospital, Winfield) lung cases were presented at 149% of previous annual levels. Of the annual case load 15% of the uterine cases were presented; before the advent of the multidisciplinary clinics, this rate was 0%.<sup>21</sup> MDT meetings have been shown to enhance graduate medical education by providing a unique experience not seen in the typical residency and fellowship.<sup>21</sup> Patients identified by tumor boards are 2.5 times more likely to be part of a clinical trial than other patients.<sup>22</sup>

As mentioned in the first few lines, we are still trying to embrace the idea of development of this Multi Disciplinary culture in our country. Personal attitudes play the most pivotal and strongest role in the establishment of these boards in academic institutes where specialists are practicing under one roof. As one can imagine, the task becomes more difficult in centers where comprehensive care is not available. City Tumor Board is one unique example of an independent multi disciplinary tumor board which is a fortnightly event organized by specialist colleagues on alternate Sunday mornings starting at 08:00 am. Before the establishment of this City Tumor Board it was unimaginable for senior academic leads of different specialities to even gather on Sunday mornings for even paid assignments. The success of this board tells us a lot about selfless cancer carers who can devote their time even on a Sunday early morning for the sake of their cancer patients without thinking about any monetary or other gains. It would be a worthwhile reading for medical students and practicing clinicians to go through recent updates on City Tumor Board which was published in Journal of Pakistan Medical Association (JPMA) in December 2013 issue.<sup>23</sup> In Pakistan we have certain administrative and managerial gaps in our Healthcare Services. In my humble opinion, instead of waiting for their correction and or wasting our valuable quality time in futile discussions, we can work together, and establish quality multi disciplinary teams. Weekly site specific Tumor Boards can be achieved via these teams. In American Society of Clinical Oncology 2014 meeting a commentary is being made mentio-

ning the role of Tumor Boards in service settings where resources are limited. Authors from Lebanon, Harvard, USA and Sussex University, United Kingdom are suggesting that tumor boards may help overcome these limitations.<sup>24</sup>

To summarize, MDT meetings play a very important role in better treatment of the cancer patients in significant number of cases at various tumor sites because members from different specialties augment each others interpretations. The pathologist-radiologist correlation helps in better tumor staging whereas surgeon-oncologist correlation results in improved treatment plan. Discussing increased number of cases with more attendance improves the outcome of these meetings. It is therefore recommended that all tumor cases be discussed in MDT meetings regardless of site, staging and grading. It will also play a beneficial role in improving academics and research work.

We are hoping to see establishment of Multi-Disciplinary Tumor Boards in all institutes of Pakistan where cancer care is being provided.<sup>25</sup>

#### **Acknowledgement:**

I wish to acknowledge and appreciate the Literature Search and formatting work of Dow Medical College student Saqib K. Bakshi.

## **References**

1. Ganiy Opeyemi Abdulrahman, Jnr, The effect of multidisciplinary team care on cancer management. Pan Afr Med J. 2011; **9**: 20. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3215542/>
2. J.M. Croke, MD and S. El-Sayed, MD, Multi-disciplinary management of cancer patients: chasing a shadow or real value? An overview of the literature. CurrOncol. 2012 August; **19(4)**: 232-8. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3410834/>
3. El Saghir NS, El-Asmar N, Hajj C, Eid T, Khatib S, Bounedjar A, Ajarim D, Shamseddine A, Geara F, Jazieh A, Azim HA, Abdelkader Y, Kattan J, Abulkhair O. Survey of utilization of multidisciplinary management tumor boards in Arab countries. Breast 2011 Apr; **20(2)**: 70-4. <http://www.ncbi.nlm.nih.gov/pubmed/21316239>

4. Lamb BW, Sevdalis N, Taylor C, Vincent C, Green JS. Multidisciplinary team working across different tumor types: analysis of a national survey. *Ann Oncol.* 2012 May; **23(5)**: 1293-300. <http://www.ncbi.nlm.nih.gov/pubmed/22015450>
5. Lamb BW, Brown KF, Nagpal K, et al. Quality of care management decisions by multidisciplinary cancer teams: a systematic review. *Ann Surg Oncol* 2011 Aug; **18(8)**: 2116-25. [http://www.unboundmedicine.com/evidence/ub/citation/21442345/Quality\\_of\\_care\\_management\\_decisions\\_by\\_multidisciplinary\\_cancer\\_teams:\\_a\\_systematic\\_review\\_](http://www.unboundmedicine.com/evidence/ub/citation/21442345/Quality_of_care_management_decisions_by_multidisciplinary_cancer_teams:_a_systematic_review_)
6. Orgerie MB, Duchange N, Pélicier N, et al. Multidisciplinary teams in oncology do not impact the physician-patient relationship. *Presse Med* 2012 Mar; **41(3-1)**: 87-94. [http://www.unboundmedicine.com/evidence/ub/citation/22079306/%5BMultidisciplinary\\_meetings\\_in\\_oncology\\_do\\_not\\_impact\\_the\\_physician\\_patient\\_relationship%5D\\_](http://www.unboundmedicine.com/evidence/ub/citation/22079306/%5BMultidisciplinary_meetings_in_oncology_do_not_impact_the_physician_patient_relationship%5D_)
7. Kenji Nemoto, Misako Murakami, Mayumi Ichikawa, Ibuki Ohta, Takuma Nomiya, Mayumi Yamakawa, Yuriko Itho, Tadahisa Fukui, Takashi Yoshioka. Influence of a multidisciplinary cancer board on treatment decisions. May 2012. <http://link.springer.com/article/10.1007%2Fs10147-012-0420-x?LI=true>
8. Lamb BW, Sevdalis N, Benn J, Vincent C, Green JS. Multidisciplinary Cancer Team Meeting Structure and Treatment Decisions: A Prospective Correlational Study. *Ann Surg Oncol.* Oct. 2012. <http://www.ncbi.nlm.nih.gov/pubmed/23064794>
9. Rittman T, Corns R, Kumar A, Bhangoo R, Ashkan K. Is referral to the neuro-oncology MDT safe? *Br J Neurosurg.* Jun 2012; **26(3)**: 321-4. <http://www.ncbi.nlm.nih.gov/pubmed/22320443>
10. Troy A. Gatcliffe MD, Robert L. Coleman MD. Tumor board: more than treatment planning-A 1-year prospective survey. *Journal of Cancer Education*, December 2008, **(23)**: 235-7. <http://link.springer.com/article/10.1080/08858190802189014>
11. Cohen P, Tan AL, Penman A. The multidisciplinary tumor conference in gynecologic oncology-does it alter management? *Int J Gynecol Cancer.* 2009 Dec; **19(9)**: 1470-2. <http://www.ncbi.nlm.nih.gov/pubmed/19955920>
12. YE Ying-jiang, SHEN Zhan-long, SUN Xian-tao, WANG Zhi-feng, SHEN Dan-hua, LIU Hui-jun, ZHANG Wan-lei, CHEN Ya-lin, ZHOU Jing, G. J. Poston and WANG Shan. Impact of multidisciplinary team working on the management of colorectal cancer. *Chin Med J* 2012; **125(2)**: 172-17. <http://www.cmj.org/periodical/PDF/201212035681370.pdf>
13. Palmer G, Martling A, Cedermark B, Holm T. Preoperative tumour staging with multidisciplinary team assessment improves the outcome in locally advanced primary rectal cancer. *Colorectal Dis.* 2011 Dec; **13(12)**: 1361-9. <http://www.ncbi.nlm.nih.gov/pubmed/20958913>
14. Chang-Zheng Du, Jie Li, Yong Cai, Ying-Shi Sun, Wei-Cheng Xue, and Jin Gu. Effect of multidisciplinary team treatment on outcomes of patients with gastrointestinal malignancy. *World J Gastroenterol.* April 2011; **17(15)**: 2013-8. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3082756/>
15. Aizer AA, Paly JJ, Zietman AL, Nguyen PL, Beard CJ, Rao SK, Kaplan ID, Niemierko A, Hirsch MS, Wu CL, Olumi AF, Michaelson MD, D'Amico AV, Efstathiou JA. Multidisciplinary care and pursuit of active surveillance in low-risk prostate cancer. *J Clin Oncol.* Sep 2012; **30(25)**: 3071-6. <http://www.ncbi.nlm.nih.gov/pubmed/22851571>
16. Tibor Tot and László Tabár. The role of radiological-pathological correlation in diagnosing early breast cancer: the pathologist's perspective. *The European Journal of Pathology* © Springer-Verlag 2010.10.1007/s00428-010-1005-6. <http://link.springer.com/article/10.1007/s00428-010-1005-6/fulltext.html>

17. Castel P, Tassy L, Lurkin A, Blay JY, Meeus P, Mignotte H, Faure C, Ranchere-Vince D, Bachelot T, Guastalla JP, Sunyach MP, Guerin N, Treilleux I, Marec-Berard P, Thiesse P, Ray-Coquard I. Multidisciplinarity and medical decision, impact for patients with cancer: sociological assessment of two tumor committees' organization. *Bull Cancer*. Apr 2012; **99(4)**: 34-42. <http://www.ncbi.nlm.nih.gov/pubmed/22455955>
18. Boxer MM, Vinod SK, Shafiq J, Duggan KJ. Do multidisciplinary team meetings make a difference in the management of lung cancer? *Cancer*. Nov 2011; **117(22)**: 5112-20. <http://www.ncbi.nlm.nih.gov/pubmed/21523766>
19. Hollingdale AE, Roques TW, Curtin J, Martin WM, Horan G, Barrett A. Multidisciplinary collaborative gross tumour volume definition for lung cancer radiotherapy: a prospective study. *Cancer Imaging*. Dec 2011; **11**: 202-8. <http://www.ncbi.nlm.nih.gov/pubmed/22157168>
20. Friedland PL, Bozic B, Dewar J, Kuan R, Meyer C, Phillips M. Impact of multidisciplinary team management in head and neck cancer patients. *Br J Cancer*. Apr 2011; **104(8)**: 1246-8. <http://www.ncbi.nlm.nih.gov/pubmed/21448166>
21. Laura Elise Horvath, MD, Edgardo Yordan, MD, Deepak Malhotra, MD, Ileana Leyva, MD, Katy Bortel, RN, Denise Schalk, APN, Patricia Mellinger, APN, Marianne Huml, APN, Christy Kesslering, MD, and Jeffrey Huml, MD. Multidisciplinary Care in the Oncology Setting: Historical Perspective and Data from Lung and Gynecology Multidisciplinary Clinics. *J Oncol Pract*. November 2010; **6(6)**: 21-6. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2988674/>
22. Kuroki L, Stuckey A, Hirway P, Raker CA, Bandera CA, DiSilvestro PA, Granai CO, Legare RD, Sakr BJ, Dizon DS. Addressing clinical trials: can the multidisciplinary Tumor Board improve participation? A study from an academic women's cancer program. *Gynecol Oncol*. Mar 2010; **116(3)**: 295-300. <http://www.ncbi.nlm.nih.gov/pubmed/20042225>
23. Asghar AH, Abbasi AN, Jamal A, Haider G, Rizvi S. City tumour board Karachi: an innovative step in multidisciplinary consensus meeting and its two years audit. *J Pak Med Assoc*. 2013 Dec; **63(12)**: 1534-5.
24. El Saghir NS, Keating NL, Carlson RW, Khoury KE, Fallowfield L. Tumor boards: optimizing the structure and improving efficiency of multidisciplinary management of patients with cancer worldwide. *Am Soc Clin Oncol Educ Book*. 2014: 461-6. doi: 10.14694/EdBook\_AM.2014.34.e461.
25. Abbasi AN, Cancer management is a multidisciplinary team work. *J Coll Physicians Surg Pak*. May 2011; **21(5)**: 259-61. doi: 05.2011/JCPSP.259261.