BMC Cancer

EDITORIAL Open Access

Recognizing the role of surgical oncology and cancer imaging in the multidisciplinary approach to cancer: an important area of future scholarly growth for *BMC Cancer*

Stephen P Povoski[1*] and Nathan C Hall[2]

Cancer, far more than any other disease entity, requires a multidisciplinary approach. This multidisciplinary approach to cancer involves the integration of treatment strategies specifically set forth by surgical oncologists, medical oncologists, and radiation oncologists [1-3]. While early stage solid malignancies are frequently treated successfully with surgical therapy alone, higher-stage disease generally requires integration of surgery along with adjuvant therapies that are administered by the medical oncologists and/or radiation oncologists, both in a standard postoperative fashion, as well as in a preoperative/neoadjuvant fashion. Treatment planning and treatment implementation by surgical oncologists, medical oncologists, and radiation oncologists rely heavily on various cancer imaging modalities [4-10]. Therefore, integral to each of these cancer subspecialists is the critical role played by the cancer imaging physician. Realistically, none of these cancer subspecialists can work in a vacuum, and such integration of services is essential for optimizing success of treatment, minimizing complications, and impacting positively on long-term outcome.

BMC Cancer, which was conceived in January 2001 [11,12], has made enormous efforts to consider articles addressing all aspects of cancer basic science and clinical research, including articles that address pathophysiology, prevention, diagnosis, and treatment. However, *BMC Cancer* also recognizes that while submissions concerning molecular and cellular biology, genetics, epidemiology, immunology, translational research, and clinical trials related to medical oncologists and radiation oncologists have been well-represented, to the contrary, submissions concerning areas of interest to surgical oncologists and cancer imaging physicians have been far underrepresented. Therefore, in an effort to help reach out to and expand the surgical oncology and cancer imaging readership, *BMC Cancer* is introducing a new sub-section within the current "Clinical oncology" section that will be entitled "Surgical oncology and imaging". It is hopeful that this new sub-section will be an important area of future scholarly growth for *BMC Cancer*.

Within the past several years, increasing interest has developed in attempting to maximize the integration of cancer imaging into the surgical treatment schema for solid malignancies [13,14]. The development of such a multimodal approach has been the driving force of our own multidisciplinary cancer detection and therapy group at The Ohio State University [14]. It has been our ongoing contention that such a multimodal approach to cancer detection and surgical treatment is critical for diagnostic accuracy, surgical planning, intraoperative identification of all diseased tissues, guidance of surgical resection, and verification of the completeness of the surgical resection. Additionally, a multimodal approach to cancer detection and surgical treatment allows for complete integration and coordination of services provided by physicians involved in the surgical management of cancer patients, including surgical oncologists, cancer imaging physicians, and pathologists [14-18]. It is our hope that the efforts of *BMC Cancer* to reach out to the surgical oncology and cancer imaging readership will enable further development and refinement of such multimodal approaches to cancer detection and surgical treatment. Furthermore, with the ongoing development of more relevant target-specific and antigen-specific

* Correspondence: stephen.povoski@osumc.edu
[1]Division of Surgical Oncology, Department of Surgery, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute and Comprehensive Cancer Center, The Ohio State University Wexner Medical Center, Columbus, OH 43210, USA
Full list of author information is available at the end of the article

cancer detection/imaging agents, we envision that this concept of a multimodal approach will ultimately encompass preoperative and perioperative cancer imaging, intraoperative cancer detection and surgical resection, postoperative and long-term surveillance cancer imaging, and a wide variety of potential adjuvant target-specific and antigen-specific cancer therapies [19]. Such an integrated multimodal approach holds much promise for ultimately improving the care and long-term outcome of future cancer patients.

In summary, we enthusiastically welcome the efforts put forward by *BMC Cancer* in reaching out to the surgical oncology and cancer imaging readership by the introduction of the "Surgical oncology and imaging" sub-section. We envision this to become an important area of future scholarly growth for *BMC Cancer* and look forward to receiving submissions in this area.

Author details
[1]Division of Surgical Oncology, Department of Surgery, Arthur G. James Cancer Hospital and Richard J. Solove Research Institute and Comprehensive Cancer Center, The Ohio State University Wexner Medical Center, Columbus, OH 43210, USA. [2]Department of Radiology, The Ohio State University Wexner Medical Center, Columbus, OH 43210, USA.

Received: 9 July 2013 Accepted: 15 July 2013
Published: 23 July 2013

References

1. Lamb BW, Brown KF, Nagpal K, Vincent C, Green JS, Sevdalis N: **Quality of care management decisions by multidisciplinary cancer teams: a systematic review.** *Ann Surg Oncol* 2011, **18:**2116–2125.
2. Patkar V, Acosta D, Davidson T, Jones A, Fox J, Keshtgar M: **Cancer multidisciplinary team meetings: evidence, challenges, and the role of clinical decision support technology.** *Int J Breast Cancer* 2011, **2011:**83160.
3. Gagliardi AR, Dobrow MJ, Wright FC: **How can we improve cancer care? A review of interprofessional collaboration models and their use in clinical management.** *Surg Oncol* 2011, **20:**146–154.
4. Otsuka H, Morita N, Yamashita K, Nishitani H: **FDG-PET/CT for cancer management.** *J Med Invest* 2007, **54:**195–199.
5. Schmidt GP, Kramer H, Reiser MF, Glaser C: **Whole-body magnetic resonance imaging and positron emission tomography-computed tomography in oncology.** *Top Magn Reson Imaging* 2007, **18:**193–202.
6. Fletcher JW, Djulbegovic B, Soares HP, Siegel BA, Lowe VJ, Lyman GH, Coleman RE, Wahl R, Paschold JC, Avril N, Einhorn LH, Suh WW, Samson D, Delbeke D, Gorman M, Shields AF: **Recommendations on the use of 18F-FDG PET in oncology.** *J Nucl Med* 2008, **49:**480–508.
7. Papathanassiou D, Liehn JC: **The growing development of multimodality imaging in oncology.** *Crit Rev Oncol Hematol* 2008, **68:**60–65.
8. Histed SN, Lindenberg ML, Mena E, Turkbey B, Choyke PL, Kurdziel KA: **Review of functional/anatomical imaging in oncology.** *Nucl Med Commun* 2012, **33:**349–361.
9. Kircher MF, Willmann JK: **Molecular body imaging: MR imaging, CT, and US. Part II. Applications.** *Radiology* 2012, **264:**349–368.
10. Kircher MF, Willmann JK: **Molecular body imaging: MR imaging, CT, and US. Part I. Principles.** *Radiology* 2012, **263:**633–643.
11. BMC Cancer: http://www.biomedcentral.com/bmccancer/.
12. Chap C, Patel J: **A decade of progress in cancer research.** *BMC Cancer* 2011, **11:**498.
13. Povoski SP, Neff RL, Mojzisik CM, O'Malley DM, Hinkle GH, Hall NC, Murrey DA Jr, Knopp MV, Martin EW Jr: **A comprehensive overview of radioguided surgery using gamma detection probe technology.** *World J Surg Oncol* 2009, **7:**11.
14. Hall NC, Povoski SP, Murrey DA, Knopp MV, Martin EW: **Bringing advanced medical imaging into the operative arena could revolutionize the surgical care of cancer patients.** *Expert Rev Med Devices* 2008, **5:**663–667.
15. Hall NC, Povoski SP, Murrey DA, Knopp MV, Martin EW Jr: **Combined approach of perioperative 18F-FDG PET/CT imaging and intraoperative 18F-FDG handheld gamma probe detection for tumor localization and verification of complete tumor resection in breast cancer.** *World J Surg Oncol* 2007, **5:**143.
16. Povoski SP, Hall NC, Martin EW Jr, Walker MJ: **Multimodality approach of perioperative 18F-FDG PET/CT imaging, intraoperative 18F-FDG handheld gamma probe detection, and intraoperative ultrasound for tumor localization and verification of resection of all sites of hypermetabolic activity in a case of occult recurrent metastatic melanoma.** *World J Surg Oncol* 2008, **6:**1.
17. Povoski SP, Hall NC, Murrey DA Jr, Chow AZ, Gaglani JR, Bahnson EE, Mojzisik CM, Kuhrt MP, Hitchcock CL, Knopp MV, Martin EW Jr: **Multimodal imaging and detection approach to 18F-FDG-directed surgery for patients with known or suspected malignancies: a comprehensive description of the specific methodology utilized in a single-institution cumulative retrospective experience.** *World J Surg Oncol* 2011, **9:**152.
18. Povoski SP, Hall NC, Murrey DA Jr, Sharp DS, Hitchcock CL, Mojzisik CM, Bahnson EE, Knopp MV, Martin EW Jr, Bahnson RR: **Multimodal imaging and detection strategy with 124 I-labeled chimeric monoclonal antibody cG250 for accurate localization and confirmation of extent of disease during laparoscopic and open surgical resection of clear cell renal cell carcinoma.** *Surg Innov* 2013, **20:**59–69.
19. Povoski SP, Hatzaras IS, Mojzisik CM, Martin EW Jr: **Oncologic theranostics: recognition of this concept in antigen-directed cancer therapy for colorectal cancer with anti-TAG-72 monoclonal antibodies.** *Expert Rev Mol Diagn* 2011, **11:**667–670.

doi:10.1186/1471-2407-13-355
Cite this article as: Povoski and Hall: Recognizing the role of surgical oncology and cancer imaging in the multidisciplinary approach to cancer: an important area of future scholarly growth for *BMC Cancer*. *BMC Cancer* 2013 **13**:355.