Goals of the NCI MRI/MRS Meeting on Translational Research in Cancer

Description:
The Cancer Imaging Program (CIP) of the NCI held a meeting in May 2004 with a panel of academic investigators/industry representatives during this year's ISMRM annual meeting in Kyoto. The purpose was to help plan and strategize how to move the field toward translational research and clinical utilization, assess current developments and their application to oncology, and identify barriers for their translation and implementation in multi-center clinical trials. In conjunction with the recommendations the group had made, a two-day workshop entitled "MR Workshop on Translational Research in Cancer - Tumor response" was held recently in Bethesda on November 22 and 23, 2004.

Our goal was to examine and develop a consensus on MR methodology to obtain quantitative tumor response in a more harmonized way across multiple clinical sites and MR systems. The workshop included presentations and discussions with investigators from academia, government and industry. The meeting was structured in a highly interactive format in order to stimulate extensive discussion among the participants.

Background:
Recent advances in Magnetic Resonance Imaging and Spectroscopy are having a significant impact on cancer detection, diagnosis, image-guided intervention, and assessment of drug therapy for cancer. New developments such as those in the area of DCE-MRI and Proton MR Spectroscopy and Spectroscopic Imaging need to be optimized and validated through multi-center clinical trials, and their dissemination into clinical practice needs to be accelerated if appropriate. There is therefore a need to support multi-disciplinary academic and industrial research teams for the development, optimization, and validation needed for regulatory approvals and broad dissemination of these technologies and methods across clinical centers.

Goals:
Our ultimate goal is to move recent developments in MRI/MRS from the current status of isolated single site developments of clinical applications into readily applied, robust, and widely accessible clinical tools. The purpose of the NCI meetings was to help plan and strategize how to move the field toward translational research and clinical utilization, assess current developments and their application to oncology, and identify barriers for their translation and implementation in multi-center clinical trials. Although it is impossible to accomplish all the objectives listed below in one or two meetings, it was our hope to develop a consensus on methodology and explore a number of demonstration projects.

Objectives:
Engage investigators from academia and industries to help

1. Identify current and future clinical opportunities for MRI/MRS in cancer research,

2. Identify the technological challenges that need to be met to address these clinical opportunities,

3. Assess current development, underlying technological requirements, and their validation for a) DCE-MRI for drug development and assessments of cancer therapies; and b) Proton MRS for cancer diagnostics, disease progression, and treatment monitoring,

4. Develop a consensus on approaches to harmonize methods for data collection and processing of data across different commercial platforms to facilitate the analysis of biomarkers, in particular for drug response.

5 Develop a plan to network both the device and drug industries to collectively address these challenges. This might be achieved by establishing a network similar to the NCI Network for Translational Research: Optical Imaging (NTROI) that would bring members of several communities together to share validated data and related methodologies. The network could be highly leveraged using investigator initiated grants support by NCI and or through the use of public private partnerships, under the guidance of the Foundation of NIH (FNIH).