BioMed Research International

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Special Issue on

Advances in Translational Cancer Imaging: Opportunities and Challenges

CALL FOR PAPERS

Cancer imaging is tasked to improve the diagnosis, monitoring, and treatment of patients with cancer. In recent years, it has been apparent that the malignant behavior of tumors depends not only on the cancer cell itself but also on its interaction with the host environment. Means to image and exploit the tumour environment, and cellular pathways that contribute to it, are increasing in importance. There is an urgent need for the development of noninvasive imaging techniques that provide early disease detection, that give prognostic information, and that can detect early treatment response in order to guide therapy in individual patients.

Early cancer detection and quantitative imaging techniques in cancer pathophysiology evaluation and therapy efficacy monitoring involve the interrogation of biologic processes in tumor molecular abnormalities. This will encompass new imaging paradigms that include multiple image-capture techniques, medical physics, biomathematics, bioinformatics, and molecular biology. The ability to image fine molecular changes of cancer opens up exciting possibilities for clinical applications with high relevance to personalized treatment as well as pharmaceutical development. Early cancer screening and cancer detection are expected to have a major economic impact due to higher curative rate for many tumor types.

This special issue will serve both scientific and clinical communities by disseminating novel results and concepts relevant to the cancer imaging in basic, translational, and clinical studies ranging from animal models to human patients.

Potential topics include, but are not limited to:

- Development and validation of cancer imaging biomarkers
- Quantitative imaging techniques in cancer pathophysiology evaluation and therapy efficacy monitoring
- Cost-effectiveness of cancer screening program
- Molecular imaging of cancer animal models using multiple imaging modalities
- Computer aided early cancer detection and diagnosis techniques

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/bmri/radiology/atci/.

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