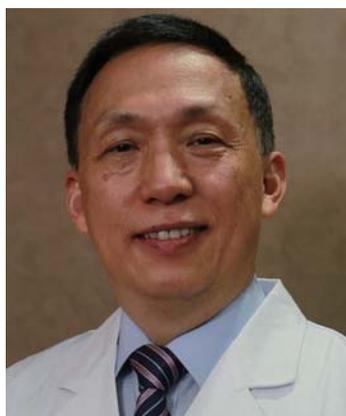


New era, new concept, new idea

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Nowadays, with the development of science and technology, the specialization of clinical medicine and refinement of treatment demand more accurate diagnoses, which is a new challenge for our radiologists.

Improved methods are developed constantly as new devices and techniques are developed. The location and differentiation of different kinds of diseases are becoming more accurate. In addition, imaging of microstructures such as cells and cell-spaces, which was impossible with conventional imaging methods, is becoming possible.

As imaging scanner hardware performance and data processing capabilities are improved, it has changed from the diagnosis of macroscopic morphology to microscopic imaging of cells and molecules. Further, the markers used in molecular imaging have also changed from foreign substances, such as ultra-small superparamagnetic particles of iron oxide (USPIO) and fluorodeoxyglucose (FDG), to inherent components, e.g., water molecules or triglycerides, in order to evaluate the functionality of tissue or cells in the areas of interest and perform a qualitative diagnosis.

Functional images are becoming more elaborate and highly quantified, especially for the output of MR se-

quences such as diffusion-weighted imaging (DWI), diffusion tensor imaging (DTI), and dynamic MR imaging, which can be used for quantitative assessment of bowel motility. These techniques and methods of functional assessment, such as high b-value DWI imaging, which can be used for differentiation of tumors, and multi-modality MR imaging, which is a new method for diagnosing gastrointestinal diseases, represent challenges to the conventional “gold standard”.

Diagnostic quality has become more accurate, and the time window of diagnosis has become shorter. These changes require us to update our concept, i.e., focus on disease-centered development and reinforcement of multi-specialty and multi-subject cooperation, in order to establish a new diagnostic mode of multi-modality imaging based on new devices and techniques, thereby creating a new diagnostic thinking pattern and benefiting patients and society.

DOI 10.1007/s10330-015-0106-8

Cite this article as: Hu DY. New era, new concept, new idea. *Oncol Transl Med*, 2015, 1: 145.